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| 1. Which of these is true of matter?   |  |  |  | | --- | --- | --- | |  | a. | It is the pull of gravity on an object. | |  | b. | It combines to form atoms. | |  | c. | It is neither created nor destroyed during a chemical reaction. | |  | d. | It is directly proportional to weight. | |  | e. | It is the measure of space occupied by an object. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/24/2018 7:07 AM | |

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| 2. Which of these statements is **correct**?   |  |  |  | | --- | --- | --- | |  | a. | The amount of carbon on Earth is essentially constant. | |  | b. | The amount of carbon on Earth fluctuates with the seasons. | |  | c. | The amount of carbon on Earth is increasing because of  plant and animal growth. | |  | d. | The amount of carbon on Earth is decreasing because of the consumption of carbon-based fuels. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/24/2018 7:08 AM | |

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| 3. The French chemist Antoine Lavoisier found that the weight of objects before burning and the weight of the products after burning were equal. He noticed that the total weight did not change during a process. Which of these best describes the scenario?   |  |  |  | | --- | --- | --- | |  | a. | Lavoisier arrived at a scientific law from observation. | |  | b. | Lavoisier arrived at a scientific theory from observation.. | |  | c. | Lavoisier arrived at a scientific theory from a scientific law. | |  | d. | Lavoisier arrived at a scientific law from a scientific theory. | |  | e. | Lavoisier arrived at a scientific conclusion from observation. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:45 AM | |

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| 4. In a scientific method, a hypothesis is tested by a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | experiment | |  | b. | law | |  | c. | theory | |  | d. | observation | |  | e. | trial |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:45 AM | |

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| 5. A statement that summarizes the data obtained from a series of observations is known as a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | observation | |  | b. | law | |  | c. | theory | |  | d. | conclusion | |  | e. | experiment |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:46 AM | |

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| 6. Which of these is **not** part of the scientific method?   |  |  |  | | --- | --- | --- | |  | a. | Observation | |  | b. | Law | |  | c. | Theory | |  | d. | Conclusion | |  | e. | Experiment |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:46 AM | |

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| 7. Which of these is the **best** definition of a scientific hypothesis?   |  |  |  | | --- | --- | --- | |  | a. | A prediction based on a limited number of observations | |  | b. | A method of explaining observations that appears contradictory | |  | c. | A broadly applicable generalization with virtually no exceptions | |  | d. | A method for approaching problems that is used by all scientists | |  | e. | A tentative model that describes the underlying cause of observations and laws |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:47 AM | |

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| 8. Which of these is the **best** definition of a scientific law?   |  |  |  | | --- | --- | --- | |  | a. | A prediction based on a limited number of observations | |  | b. | A method of explaining observations that appear contradictory | |  | c. | A broadly applicable generalization with virtually no exceptions | |  | d. | A method for approaching problems that is used by all scientists | |  | e. | A rule made by scientists to ensure consistency in their observations |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:47 AM | |

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| 9. A(n) \_\_\_\_\_ is an explanation of a scientific observation.   |  |  |  | | --- | --- | --- | |  | a. | speculation | |  | b. | theory | |  | c. | conclusion | |  | d. | prediction | |  | e. | epiphany |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:47 AM | |

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| 10. Which of these is **not** a requirement of a scientifically acceptable theory?   |  |  |  | | --- | --- | --- | |  | a. | It should predict behavior far beyond the observations from which it was formulated. | |  | b. | It should be proven by additional experimentation. | |  | c. | It should provide a sound reasoning for a particular observation. | |  | d. | It should be easy to revise to accommodate new observations. | |  | e. | It should provide models of behavior consistent with other widely accepted theories. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:48 AM | |

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| 11. Which of these statements about the scientific method is **incorrect**?   |  |  |  | | --- | --- | --- | |  | a. | It is a collection of absolute truths. | |  | b. | It uses experiments that are reproducible. | |  | c. | It is used for testing claims about the natural world. | |  | d. | It requires one to propose a theory and perform experiments to obtain results that confirm or disclaim the theory. | |  | e. | It leads to a model of reality from a set of observations. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/24/2018 7:12 AM | |

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| 12. To explain natural phenomena, scientists must \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | have an opinion | |  | b. | make observations | |  | c. | guess correctly most of the time | |  | d. | make assumptions | |  | e. | always agree with existing theories |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:48 AM | |

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| 13. Which scientist **first** theorized that matter was ultimately composed of small indivisible particles called atoms?   |  |  |  | | --- | --- | --- | |  | a. | Dalton | |  | b. | Lavoisier | |  | c. | Empedocles | |  | d. | Plato | |  | e. | Democritus |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The First People to Wonder About Molecular Reasons | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:49 AM | |

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| 14. \_\_\_\_\_ is known as the predecessor to chemistry.   |  |  |  | | --- | --- | --- | |  | a. | Alchemy | |  | b. | Pre-chemistry | |  | c. | Biology | |  | d. | Biochemistry | |  | e. | Physical science |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | Immortality and Endless Riches | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:49 AM | |

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| 15. Which of these contributions did alchemists of the Middle Ages make to modern science?   |  |  |  | | --- | --- | --- | |  | a. | Sun-centered universe and metallurgy | |  | b. | Metallurgy and the development of scientific techniques | |  | c. | The scientific method and law of conservation of mass | |  | d. | Law of conservation of matter and first atomic theory | |  | e. | Law of conservation of mass and law of constant composition |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | Immortality and Endless Riches | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:50 AM | |

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| 16. Thales believed that \_\_\_\_\_ is the principle element of all things.   |  |  |  | | --- | --- | --- | |  | a. | earth | |  | b. | air | |  | c. | fire | |  | d. | water | |  | e. | gold |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The First People to Wonder About Molecular Reasons | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:50 AM | |

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| 17. Which scientist is **incorrectly** matched with his idea or theory?   |  |  |  | | --- | --- | --- | |  | Scientist | Theory | | I. | Copernicus | A sun-centered universe | | II. | Dalton | Atomic theory | | III. | Galileo | A sun-centered universe | | IV. | Vesalius | Matter is composed of small indivisible particles. | | V. | Boyle | The simplest form of a substance is an element. |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | II | |  | c. | III | |  | d. | IV | |  | e. | V |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Beginning of Modern Science | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:51 AM | |

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| 18. Which two scientists are credited with the endorsement of a sun-centered universe?   |  |  |  | | --- | --- | --- | |  | a. | Dalton and Plato | |  | b. | Boyle and Copernicus | |  | c. | Copernicus and Galileo | |  | d. | Democritus and Vesalius |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Beginning of Modern Science | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:51 AM | |

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| 19. The scientific revolution of the 1500s was marked by a move away from \_\_\_\_\_ and towards \_\_\_\_\_ as a method for explaining the natural world.   |  |  |  | | --- | --- | --- | |  | a. | law; theory | |  | b. | alchemy; research | |  | c. | reason; observation | |  | d. | scientific theory; experimentation | |  | e. | observation; experimentation |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Beginning of Modern Science | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:51 AM | |

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| 20. Identify the entities that will correctly complete the flow chart.   |  |  |  | | --- | --- | --- | |  | **I.** | **II.** | | I. | Pure substance | Mixture | | II. | Element | Atoms | | III. | Mixture | Solutions | | IV. | Mass | Mixture | | V. | Mixture | Atoms |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | II | |  | c. | III | |  | d. | IV | |  | e. | V |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:52 AM | |

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| 21. Which of these substances are compounds?   |  |  | | --- | --- | | I. | Neon | | II. | Crude oil | | III. | Water | | IV. | Sodium chloride |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | I and III | |  | c. | II, III, and IV | |  | d. | III and IV | |  | e. | II and IV |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:52 AM | |

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| 22. Which of these substances are heterogeneous mixtures?   |  |  | | --- | --- | | I. | Steam | | II. | Milk of magnesia | | III. | Crude oil | | IV. | Rubbing alcohol |  |  |  |  | | --- | --- | --- | |  | a. | II and III | |  | b. | I and IV | |  | c. | II, III, and IV | |  | d. | I, III, and IV | |  | e. | I, II, and III |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:53 AM | |

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| 23. Which of these substances are mixtures?   |  |  | | --- | --- | | I. | Steam | | II. | Crude oil | | III. | Salt water | | IV. | Gun powder | | V. | Oxygen | | VI. | Mercury |  |  |  |  | | --- | --- | --- | |  | a. | II and III | |  | b. | I and III | |  | c. | II, III, and IV | |  | d. | I, III, and V | |  | e. | II, III, IV, and VI |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:53 AM | |

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| 24. Which of these are pure substances?   |  |  | | --- | --- | | I. | Steam | | II. | Crude oil | | III. | Salt water | | IV. | Gun powder | | V. | Oxygen | | VI. | Mercury |  |  |  |  | | --- | --- | --- | |  | a. | I, II, and III | |  | b. | I and III | |  | c. | I, II, III, and V | |  | d. | I, III, and V | |  | e. | I, V, and VI |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:54 AM | |

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| 25. Which of the following is true of ice when it melts to form liquid water?   |  |  |  | | --- | --- | --- | |  | a. | A physical change occurs. | |  | b. | A chemical change occurs. | |  | c. | Both physical and chemical changes occur. | |  | d. | The number of molecules of water increases. | |  | e. | The number of molecules of water decreases. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Properties of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:54 AM | |

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| 26. Which of the following is an example of a chemical change?   |  |  |  | | --- | --- | --- | |  | a. | Glass breaking | |  | b. | Water freezing | |  | c. | Wood burning | |  | d. | Alcohol vaporizing | |  | e. | Ice melting |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Properties of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:54 AM | |

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| 27. Which of these statements is **true?**   |  |  |  | | --- | --- | --- | |  | a. | The compositions of both mixtures and pure substances are variable. | |  | b. | The compositions of both mixtures and pure substances are fixed. | |  | c. | The composition of mixtures is variable, and the composition of pure substances is fixed. | |  | d. | The composition of mixtures is fixed, and the composition of pure substances is variable. | |  | e. | The compositions of both mixtures and pure substances can be fixed or variable. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:55 AM | |

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| 28. A substance composed of two or more different elements in fixed proportions is known as a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | atom | |  | b. | element | |  | c. | molecule | |  | d. | ion | |  | e. | compound |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:55 AM | |

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| 29. The simplest form of a substance is known as a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | element | |  | b. | ion | |  | c. | mixture | |  | d. | nucleus | |  | e. | compound |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:55 AM | |

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| 30. Which of the following statements is **not** true of a chemical compound?   |  |  |  | | --- | --- | --- | |  | a. | A chemical compound is composed of two or more elements. | |  | b. | A chemical compound is a pure substance. | |  | c. | A chemical compound has a fixed composition. | |  | d. | A chemical compound has a variable composition. | |  | e. | The elements present in a compound are different from one another. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:56 AM | |

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| 31. The smallest unit of a chemical compound is a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | atom | |  | b. | molecule | |  | c. | beta particle | |  | d. | alpha particle | |  | e. | ion |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:56 AM | |

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| 32. A chocolate chip cookie is an example of a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | element | |  | b. | compound | |  | c. | homogeneous mixture | |  | d. | heterogeneous mixture | |  | e. | alpha particle |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:57 AM | |

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| 33. Which of these statements is true**?**   |  |  |  | | --- | --- | --- | |  | a. | Gases are compressible and have a variable shape. | |  | b. | Gases are incompressible and have a variable shape. | |  | c. | Gases are compressible and have a fixed shape. | |  | d. | Gases are incompressible and have a fixed shape. | |  | e. | Gases are incompressible and can have a fixed or a variable shape. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:57 AM | |

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| 34. Which of these statements is true?   |  |  |  | | --- | --- | --- | |  | a. | Solids are compressible and have a variable shape. | |  | b. | Solids are incompressible and have a variable shape. | |  | c. | Solids are compressible and have a fixed shape. | |  | d. | Solids are incompressible and have a fixed shape. | |  | e. | Solids are compressible and may have a fixed or a variable shape. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:57 AM | |

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| 35. What does the figure represent?  ​   |  |  |  | | --- | --- | --- | |  | a. | A heterogeneous mixture of elements | |  | b. | A pure substance that is an element | |  | c. | A pure substance that is a compound | |  | d. | A homogenous mixture of elements and compounds | |  | e. | A heterogeneous mixture of elements and compounds |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:58 AM | |

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| 36. Methane can be decomposed into two simpler substances: hydrogen and carbon. Therefore, methane is a(n) \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | mixture | |  | b. | element | |  | c. | atom | |  | d. | compound. | |  | e. | molecule |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:58 AM | |

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| 37. What does the figure represent?  ​   |  |  |  | | --- | --- | --- | |  | a. | A heterogeneous mixture of elements | |  | b. | A pure substance that is an element | |  | c. | A pure substance that is a compound | |  | d. | A homogenous mixture of elements and compounds | |  | e. | A heterogeneous mixture of elements and compounds |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/18/2018 1:24 AM | |

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| 38. A bowl of chocolate chip ice cream is **best** described as a \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | pure substance containing only elements | |  | b. | homogenous mixture of elements | |  | c. | heterogeneous mixture compounds | |  | d. | pure substance containing only compounds | |  | e. | heterogeneous mixture of elements |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:59 AM | |

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| 39. Methane and oxygen react to form carbon dioxide and water. What is the mass of water formed if 3.2 g of methane reacts with 12.8 g of oxygen to produce 8.8 g of carbon dioxide?   |  |  |  | | --- | --- | --- | |  | a. | 7.2 g | |  | b. | 8.8 g | |  | c. | 9.6 g | |  | d. | 14.8 g | |  | e. | 16.0 g |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Properties of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:59 AM | |

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| 40. Carbon and oxygen react to form carbon dioxide. What is the mass of carbon dioxide produced when 12.0 g of carbon react with 32.0 g of oxygen?   |  |  |  | | --- | --- | --- | |  | a. | 44 g | |  | b. | 38 g | |  | c. | 28 g | |  | d. | 20 g | |  | e. | 2.67 g |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Properties of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 5:59 AM | |

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| 41. If 12.0 g of carbon react with 32.0 g of oxygen to form 44.0 g of carbon dioxide, which of these statements is false?   |  |  |  | | --- | --- | --- | |  | a. | 18.0 g of carbon is needed to form 66.0 g of carbon dioxide. | |  | b. | 48.0 g of oxygen is needed to form 66.0 g of carbon dioxide. | |  | c. | 48.0 g of carbon is needed to form 132.0 g of carbon dioxide. | |  | d. | 96.0 g of oxygen is needed to form 132.0 g of carbon dioxide. | |  | e. | 36.0 g of carbon is needed to form 132.0 g of carbon dioxide. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Properties of Matter | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/24/2018 7:14 AM | |

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| 42. Which of these statements **best** explains the law of conservation of mass?   |  |  |  | | --- | --- | --- | |  | a. | All atoms of a given element have the same weight. | |  | b. | Atoms of different elements combine in fixed whole number ratios. | |  | c. | The weight of an object is neither created nor destroyed in a chemical reaction. | |  | d. | All samples of a given compound have the same proportion of constituent elements. | |  | e. | The sum of the masses of the reactants equals the sum of the masses of the products in any normal chemical reaction. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:00 AM | |

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| 43. Which of the following scientists is responsible for establishing the law of conservation of mass?   |  |  |  | | --- | --- | --- | |  | a. | Bohr | |  | b. | Proust | |  | c. | Dalton | |  | d. | Lavoisier | |  | e. | Galileo |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:01 AM | |

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| 44. According to Dalton’s atomic theory, which of the following pairs of diagrams of arrangements of atoms is consistent with a chemical reaction?   |  |  |  | | --- | --- | --- | |  | Before Reaction | After Reaction | | I. |  |  | | II. |  |  | | III. |  |  | | IV. |  |  |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | II | |  | c. | III | |  | d. | IV | |  | e. | ​   |  | | --- | | I and II |   ​  ​ |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:01 AM | |

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| 45. Elements A and Z react to form compound AZ. Compound AZ contains 40% A and 60% Z by mass. Which statement **best** explains the outcome of mixing 100 g of A is mixed with 100 g of Z?   |  |  |  | | --- | --- | --- | |  | a. | The reaction will form 200 g of AZ. | |  | b. | The reaction will form 100 g of AZ. | |  | c. | After all possible AZ is formed, some Z will be left over. | |  | d. | After all possible AZ is formed, some A will be left over. | |  | e. | No reaction will occur since the reactants are in the wrong ratio. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:02 AM | |

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| 46. Which of the following scientists is responsible for establishing the law of constant composition?   |  |  |  | | --- | --- | --- | |  | a. | Bohr | |  | b. | Proust | |  | c. | Dalton | |  | d. | Lavoisier | |  | e. | Galileo |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/18/2018 1:43 AM | |

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| 47. Which of these statements **best** explains the law of constant composition?   |  |  |  | | --- | --- | --- | |  | a. | All atoms of a given element have the same weight. | |  | b. | Atoms of different elements combine in fixed whole number ratios. | |  | c. | The weight of an object is neither created nor destroyed in a chemical reaction. | |  | d. | All samples of a given compound have the same proportion of constituent elements. | |  | e. | The sum of the masses of the reactants equals the sum of the masses of the products in a normal chemical reaction. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:03 AM | |

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| 48. A sample of heptane always contains 84% carbon and 16% hydrogen. Which of these **best** explains this phenomena?   |  |  |  | | --- | --- | --- | |  | a. | Law of Constant Composition | |  | b. | Law of Conservation of Mass | |  | c. | Dalton's Atomic Theory | |  | d. | Law of Mass Action | |  | e. | Lavoisier's Law |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:04 AM | |

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| 49. Which of the following laws **best** illustrates the following statement? Regardless of the amount of fluorine available, 23 g of sodium always combines with 19 g of fluorine.   |  |  |  | | --- | --- | --- | |  | a. | Law of Constant Composition | |  | b. | Law of Conservation of Mass | |  | c. | Dalton's Atomic Theory | |  | d. | Law of Mass Action | |  | e. | Lavoisier's Law |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:04 AM | |

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| 50. Analysis of a silicon dioxide (SiO2) sample indicated it contained 46.75 g of silicon and 53.25 g of oxygen. Determine the mass of silicon in a sample of SiO2 if the mass of oxygen is 21.3 g.   |  |  |  | | --- | --- | --- | |  | a. | 116.9 g | |  | b. | 24.26 | |  | c. | 18.7 g | |  | d. | 9.70 g | |  | e. | 2.67 g |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:05 AM | |

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| 51. Analysis of a sodium chloride (NaCl) sample indicated that it contained 15 g of sodium and 23.1 g of chlorine. Determine the mass of chlorine in a sample of NaCl if the mass of sodium is 45.0 g.   |  |  |  | | --- | --- | --- | |  | a. | 29.2 g | |  | b. | 60.0 g | |  | c. | 68.1 g | |  | d. | 69.3 g | |  | e. | 83.1 g |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:05 AM | |

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| 52. 2.0 g of hydrogen react with 16.0 g of oxygen to form 18.0 g of water. If 3.0 g of hydrogen reacts with 16.0 g of oxygen, which of the following is true?   |  |  |  | | --- | --- | --- | |  | a. | 18.0 g of water will form with 1.0 g of excess oxygen. | |  | b. | 18.0 g of water will form with 1.0 g of excess hydrogen. | |  | c. | 19.0 g of water will form. | |  | d. | 17.0 g of water will form with 1.0 g of excess oxygen and 1.0 g of excess hydrogen. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:06 AM | |

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| 53. 10.00 g of the chemical compound benzene (C6H6) contains 0.77 g of hydrogen and 9.23 g of carbon. What mass of benzene will contain 10.00 g of hydrogen?   |  |  |  | | --- | --- | --- | |  | a. | 129.9 g | |  | b. | 0.77 g | |  | c. | 92.3 g | |  | d. | 77.0 g | |  | e. | None of these |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:06 AM | |

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| 54. Which of the following scientists is responsible for establishing the early atomic theory using the laws of conservation of mass and other related laws and observations?   |  |  |  | | --- | --- | --- | |  | a. | Bohr | |  | b. | Proust | |  | c. | Dalton | |  | d. | Lavoisier | |  | e. | Galileo |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:06 AM | |

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| 55. Which of these sets of masses for nitrogen dioxide is **not** consistent with the others according to the Law of Constant Composition?   |  |  |  | | --- | --- | --- | |  | Grams of nitrogen | Grams of oxygen | | I. | 14 g | 32 g | | II. | 28 g | 64 g | | III. | 42 g | 96 g | | IV. | 84 g | 112 g | | V. | 126 g | 288 g |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | II | |  | c. | III | |  | d. | IV | |  | e. | V |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:07 AM | |

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| 56. Which of these statements is **not** consistent with Dalton's atomic theory?   |  |  |  | | --- | --- | --- | |  | a. | All atoms of gold have the same chemical properties. | |  | b. | Electrons are equally distributed throughout an atom. | |  | c. | The properties of sodium are different from the properties of chlorine. | |  | d. | Compounds are formed when atoms combine in simple whole number ratios. | |  | e. | Atoms are rearranged in normal chemical reactions but are neither created nor destroyed. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:07 AM | |

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| 57. Which of these statements is **not** correct according to Dalton's atomic theory?   |  |  |  | | --- | --- | --- | |  | a. | Elements combine in fixed proportions to form compounds. | |  | b. | Atoms are converted into other atoms in a chemical reaction. | |  | c. | All matter is composed of small indivisible particles called atoms. | |  | d. | The atoms of one element are different from the atoms of another element. | |  | e. | Atoms of different types can combine to form compounds. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:07 AM | |

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| 58. Based on Rutherford's model of the atom, how many electrons would be found in an atom with 7 protons?   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 2 | |  | c. | 4 | |  | d. | 7 | |  | e. | 14 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:08 AM | |

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| 59. Based on Rutherford's model of the atom, how many protons would be found in an atom with 17 electrons?   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 7 | |  | c. | 12 | |  | d. | 17 | |  | e. | 34 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:08 AM | |

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| 60. Which of these statements is **incorrect** according to Rutherford's model of the atom?   |  |  |  | | --- | --- | --- | |  | a. | Neutrons are part of the nucleus. | |  | b. | Most of the volume of an atom is empty space. | |  | c. | A neutral atom contains an equal number of protons and electrons. | |  | d. | An electron is located close to the nucleus of an atom. | |  | e. | Most of the mass of the atom is concentrated in the nucleus. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:09 AM | |

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| 61. Which of the following scientists is responsible for establishing the concept of a nuclear atom?   |  |  |  | | --- | --- | --- | |  | a. | Rutherford | |  | b. | Proust | |  | c. | Dalton | |  | d. | Lavoisier | |  | e. | Galileo |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:09 AM | |

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| 62. Which of the following is a characteristic of the nucleus of an atom?   |  |  |  | | --- | --- | --- | |  | a. | It is negatively charged. | |  | b. | It is neutrally charged. | |  | c. | It accounts for most of the volume of the atom. | |  | d. | It contains an atom's protons and electrons. | |  | e. | It accounts for most of the mass of the atom. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:09 AM | |

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| 63. Which two subatomic particles comprise the nucleus of an atom?   |  |  |  | | --- | --- | --- | |  | a. | Protons, neutrons | |  | b. | Protons, electrons | |  | c. | Electrons, neutrons | |  | d. | Alpha particles, protons | |  | e. | Alpha particles, electrons |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:10 AM | |

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| 64. Which of these subatomic particles is **not** found in the nucleus of an atom?   |  |  |  | | --- | --- | --- | |  | a. | Proton | |  | b. | Neutron | |  | c. | Electron | |  | d. | Alpha particle | |  | e. | Beta particle |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:10 AM | |

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| 65. Which scientist is **incorrectly** matched with his idea or theory?   |  |  |  | | --- | --- | --- | |  | Scientist | Theory | | I. | Rutherford | Atoms contain a nucleus. | | II. | Proust | Law of constant composition | | III. | Lavoisier | Law of conservation of matter | | IV. | Dalton | Law of conservation of mass | | V. | Boyle | The simplest form of a substance is an element. |  |  |  |  | | --- | --- | --- | |  | a. | I. | |  | b. | II. | |  | c. | III. | |  | d. | IV. | |  | e. | V. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:11 AM | |

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| 66. Which scientist is **incorrectly** matched with his idea or theory?   |  |  |  | | --- | --- | --- | |  | Scientist | Theory | | I. | Rutherford | Atoms contain a nucleus. | | II. | Dalton | Atomic theory | | III. | Lavoisier | Law of conservation of matter | | IV. | Proust | Atoms are small indivisible particles. | | V. | Boyle | The simplest form of a substance is an element. |  |  |  |  | | --- | --- | --- | |  | a. | I | |  | b. | II | |  | c. | III | |  | d. | IV | |  | e. | V |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:11 AM | |

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| 67. Which of these statements about science is **incorrect**?   |  |  |  | | --- | --- | --- | |  | a. | Science influences culture and society. | |  | b. | Science reveals knowledge not attainable by other means. | |  | c. | Science is a fundamental way to understand the world around us. | |  | d. | Decisions involving scientific principles are often made by nonscientists. | |  | e. | All of these are incorrect statements. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:12 AM | |

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| 68. A college freshman complains to Student Health Services of a soar throat and fever. The doctor swabs the back of the student's throat and begins a throat culture. The swabbing and growing of a culture is an example of a(n) \_\_\_\_\_ in the scientific method?   |  |  |  | | --- | --- | --- | |  | a. | law | |  | b. | theory | |  | c. | conclusion | |  | d. | observation | |  | e. | experimentation |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Scientist and the Artist | | *DATE CREATED:* | 4/3/2014 7:50 AM | | *DATE MODIFIED:* | 1/22/2018 6:12 AM | |

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| 69. Which of the following is **not** true of Rutherford's nuclear theory of an atom?   |  |  |  | | --- | --- | --- | |  | a. | The nucleus contains most of the mass of the atom. | |  | b. | The nucleus contains all the positive charge of an atom. | |  | c. | The number of electrons outside the nucleus is equal to the number of positively charged units inside the nucleus of an atom. | |  | d. | Tiny negatively charged electrons occupy most of the volume of an atom. | |  | e. | An atom consists of a sphere of positive charge filled with tiny negatively charged particles called electrons. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Nuclear Atom | | *DATE CREATED:* | 1/18/2018 2:28 AM | | *DATE MODIFIED:* | 1/22/2018 6:12 AM | |

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| 70. During the scientific revolution, \_\_\_\_\_ portrayed human anatomy with unprecedented accuracy.   |  |  |  | | --- | --- | --- | |  | a. | Robert Boyle | |  | b. | Nicholas Copernicus | |  | c. | John Dalton | |  | d. | Andreas Vesalius | |  | e. | Galileo Galilei |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Beginning of Modern Science | | *DATE CREATED:* | 1/18/2018 2:30 AM | | *DATE MODIFIED:* | 1/22/2018 6:13 AM | |

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| 71. \_\_\_\_\_ proposed that if a substance could be broken down into simpler substances, it was not an element.   |  |  |  | | --- | --- | --- | |  | a. | Robert Boyle | |  | b. | Nicholas Copernicus | |  | c. | John Dalton | |  | d. | Andreas Vesalius | |  | e. | Galileo Galilei |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Beginning of Modern Science | | *DATE CREATED:* | 1/18/2018 2:33 AM | | *DATE MODIFIED:* | 1/22/2018 6:15 AM | |

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| 72. Which of the following statements is correct?   |  |  |  | | --- | --- | --- | |  | a. | A pure substance is not a compound. | |  | b. | A pure substance is a combination of two elements in variable proportions. | |  | c. | A mixture is a combination of two or more pure substances in definite proportions. | |  | d. | A mixture cannot be composed of two or more compounds. | |  | e. | A pure substance is either an element or a compound. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Classification of Matter | | *DATE CREATED:* | 1/18/2018 2:35 AM | | *DATE MODIFIED:* | 1/22/2018 6:15 AM | |

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| 73. Which of the following is expressed by the law of constant composition?   |  |  |  | | --- | --- | --- | |  | a. | All matter is composed of indivisible particles called atoms that cannot be created or destroyed. | |  | b. | All samples of a given compound have the same proportions as their constituent elements. | |  | c. | The atom consists of a sphere of positive charge filled with tiny negatively charged particles called electrons. | |  | d. | Most of the volume of the atom is empty space occupied by tiny negatively charged electrons. | |  | e. | In a chemical reaction, matter is neither created nor destroyed. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *TOPICS:* | The Development of the Atomic Theory | | *DATE CREATED:* | 1/18/2018 2:38 AM | | *DATE MODIFIED:* | 1/22/2018 6:14 AM | |