

Chapter 2: Matter

True/False

Indicate whether the sentence or statement is true or false.

- ___ 1. A substance with greater density than water will sink in water.
- ___ 2. One chemical property of a substance is its density.
- ___ 3. A substance that expands to completely fill its container is a liquid.
- ___ 4. A proton is a positively charged particle in an atom's nucleus.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 5. A(n) _____ is the basic unit of matter.
a. electron b. molecule c. atom d. space
- ___ 6. _____ are particles without electric charge in the atom's nucleus.
a. Neutrons b. Electrons c. Ions d. Protons
- ___ 7. Hydrogen-1 and hydrogen-2 are _____ of one another.
a. ions b. conductors c. isotopes d. compounds
- ___ 8. The density of a substance is a _____ of the substance.
a. state of matter b. physical property c. solution d. chemical property
- ___ 9. Anything that takes up space or has mass is _____.
a. a compound b. an element c. matter d. plasma
- ___ 10. Tea with sugar is an example of a(n) _____.
a. mixture b. gas c. compound d. element
- ___ 11. A positively charged _____ has more protons than electrons.
a. ion b. isotope c. neutron d. molecule
- ___ 12. Isotopes of carbon have different _____.
a. numbers of electrons b. mass numbers c. atomic numbers d. numbers of protons
- ___ 13. _____ are particles located in an atom's nucleus.
a. Electrons and neutrons b. Only electrons c. Protons and electrons d. Protons and neutrons
- ___ 14. On Earth, water is naturally found in all of these states except _____.
a. gas b. liquid c. solid d. plasma
- ___ 15. At its boiling point, a liquid becomes a _____.
a. gas b. liquid c. solid d. plasma
- ___ 16. State of matter can be changed by _____ or temperature.
a. weight b. density c. pressure d. observation
- ___ 17. H₂O is a compound formed by sharing _____.
a. neutrons b. electrons c. ions d. protons

- ____ 18. The nucleus of an atom has a(n) _____.
 a. neutral charge b. positive charge c. negative charge d. string charge
- ____ 19. Helium, which has two protons, two neutrons, and two electrons, has a mass number of _____.
 a. two b. four c. six d. eight
- ____ 20. Atoms or molecules in a gas have _____ on one another.
 a. little attractive force b. strong attractive force c. no attractive force d. tight bonds
- ____ 21. Most matter in the universe is in the _____ state.
 a. gas b. solid c. liquid d. plasma
- ____ 22. A factor that determines the state of matter is the _____ of the atoms or molecules.
 a. size b. rate of movement c. location d. chemical composition
- ____ 23. Carbon has six protons, six neutrons and six electrons. What is its atomic number?
 a. 6 b. 12 c. 18 d. 36
- ____ 24. Ions are attracted to each other when they have _____.
 a. opposite charges b. like charges c. free electrons d. free protons
- ____ 25. The properties that you can observe without changing a substance into a new substance are _____.
 a. chemical properties b. physical properties c. states of matter d. forms of matter
- ____ 26. A rock with a volume of 4.0 cm^3 and a density of 3.0 g/cm^3 has a mass of _____.
 a. 0.75g b. 3.0g c. 12.0g d. 4g
- ____ 27. Water changes state at _____.
 a. 0°C and 100°C b. 32°C and 100°C c. 0°C and 32°C d. 32°C and 212°C
- ____ 28. A(n) _____ bond occurs when ions that are opposite in charge connect together.
 a. ionic c. metallic
 b. covalent d. hydrogen

Completion

Choose the correct number to fill in the missing space.

29.

Atom	# of protons	# of neutrons	# of electrons	Atomic #	Mass #
a has:	6	6	6		12

30.

Atom	# of protons	# of neutrons	# of electrons	Atomic #	Mass #
b has:	1	0	1	1	

Name: _____

ID: A

31.	Atom c has:	# of protons 11	# of neutrons _____	# of electrons 10	Atomic # 11	Mass # 23
32.	Atom d has:	# of protons _____	# of neutrons 8	# of electrons 6	Atomic # 6	Mass # 14
33.	Atom e has:	# of protons 17	# of neutrons 18	# of electrons 18	Atomic # _____	Mass # 35
34.	Atom f has:	# of protons 12	# of neutrons 12	# of electrons 12	Atomic # 12	Mass # _____
35.	Atom g has:	# of protons _____	# of neutrons 10	# of electrons 10	Atomic # 9	Mass # 19

Matching

a. compound

b. mixture

- _____ 36. It's components can be separated by physical means.
- _____ 37. It has properties different from those of its separate elements.
- _____ 38. A solution
- _____ 39. H₂O or NaCl
- _____ 40. It can be formed by atoms sharing electrons or by negative and positive ions joining.
- _____ 41. Oil and vinegar
- _____ 42. It is made up of two or more compounds.
- _____ 43. Molecules are its building blocks.
- _____ 44. It requires a chemical change to be separated.
- _____ 45. Its components keep their own properties.

**Chapter 2: Matter
Answer Section****TRUE/FALSE**

- | | |
|-----------|--------|
| 1. ANS: T | PTS: 1 |
| 2. ANS: F | PTS: 1 |
| 3. ANS: F | PTS: 1 |
| 4. ANS: T | PTS: 1 |

MULTIPLE CHOICE

- | | |
|------------|--------|
| 5. ANS: C | PTS: 1 |
| 6. ANS: A | PTS: 1 |
| 7. ANS: C | PTS: 1 |
| 8. ANS: B | PTS: 1 |
| 9. ANS: C | PTS: 1 |
| 10. ANS: A | PTS: 1 |
| 11. ANS: A | PTS: 1 |
| 12. ANS: B | PTS: 1 |
| 13. ANS: D | PTS: 1 |
| 14. ANS: D | PTS: 1 |
| 15. ANS: A | PTS: 1 |
| 16. ANS: C | PTS: 1 |
| 17. ANS: B | PTS: 1 |
| 18. ANS: B | PTS: 1 |
| 19. ANS: B | PTS: 1 |
| 20. ANS: A | PTS: 1 |
| 21. ANS: D | PTS: 1 |
| 22. ANS: B | PTS: 1 |
| 23. ANS: A | PTS: 1 |
| 24. ANS: A | PTS: 1 |
| 25. ANS: B | PTS: 1 |
| 26. ANS: C | PTS: 1 |
| 27. ANS: A | PTS: 1 |
| 28. ANS: A | PTS: 1 |

COMPLETION

- | | |
|------------|--------|
| 29. ANS: 6 | |
| | PTS: 1 |
| 30. ANS: 1 | |
| | PTS: 1 |

31. ANS: 12

PTS: 1

32. ANS: 6

PTS: 1

33. ANS: 17

PTS: 1

34. ANS: 24

PTS: 1

35. ANS: 9

PTS: 1

MATCHING

36. ANS: B PTS: 1

37. ANS: A PTS: 1

38. ANS: B PTS: 1

39. ANS: A PTS: 1

40. ANS: A PTS: 1

41. ANS: B PTS: 1

42. ANS: B PTS: 1

43. ANS: A PTS: 1

44. ANS: A PTS: 1

45. ANS: B PTS: 1