

Name: \_\_\_\_\_

Date: \_\_\_\_\_

I. Matching

- |                 |          |  |
|-----------------|----------|--|
| 1. malleability | <b>B</b> | A. anything that's a liquid or gas                                   |
| 2. viscosity    | <b>E</b> | B. how well an object can be bent or reshaped                        |
| 3. density      | <b>D</b> | C. the measure of a material's ability to dissolve in something else |
| 4. fluid        | <b>A</b> | D. mass divided by volume  |
| 5. solubility   | <b>C</b> | E. a substance's resistance to flow                                  |

6. Which of the following is not a state of matter?

- A. solid      B. liquid      C. gas      **D. metal**

7. The most common elements on the periodic table are:

- A. metals**      B. nonmetals      C. metalloids      D. noble gases

8. The density of an object with a mass of 50.0 g and a volume of 10.0 mL is:

- A. 40.0 g/mL      B. 500.0 g/mL      **C. 5.00 g/mL**      D. 60.0 g/mL

9. The state of matter where the particles are farthest apart is:

- A. solid      B. liquid      **C. gas**      D. metal

II. Matching

- |                     |          |   |
|---------------------|----------|---|
| 10. Physical change | <b>B</b> | A. when a material changes from solid to liquid |
| 11. Chemical change | <b>E</b> | B. an example is ice melting                    |
| 12. Melting         | <b>A</b> | C. when a material changes from solid to gas    |
| 13. Vaporization    | <b>D</b> | D. when a material changes from liquid to gas   |
| 14. Sublimation     | <b>C</b> | E. An example is paper burning                  |

15. A substance with definite shape and definite volume is

- A. solid**      B. liquid      C. gas      D. liquid or gas

16. The process of changing from a liquid to solid is called:

- A. sublimation      **B. freezing**      C. vaporization      D. condensation

### III. Matching

- |                           |           |   |
|---------------------------|-----------|---|
| 17. Atom                  | <b>D</b>  | A. A mixture of metals  |
| 18. Compound              | <b>E</b>  | B. The material that is dissolved                                     |
| 19. Alloy                 | <b>A</b>  | C. A substance that can dissolve other materials                      |
| 20. Heterogeneous mixture | <b>AC</b> | D. The smallest particle of an element                                |
| 21. Solution              | <b>AB</b> | E. A substance made of two or more elements                           |
| 22. Solute                | <b>B</b>  | AB. A mixture in which one material is dissolved in another material  |
| 23. Solvent               | <b>C</b>  | AC. A mixture in which the different components are easily identified |

24. A chocolate chip cookie is an example of a(n):

- A. element      B. compound      C. homogeneous mixture      **D. heterogeneous mixture**

25. Copper is an example of a(n):

- A. element**      B. compound      C. homogeneous mixture      D. heterogeneous mixture

26. Water is an example of a(n):

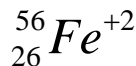
- A. element      **B. compound**      C. homogeneous mixture      D. heterogeneous mixture

27. A cup of coffee is an example of a(n):

- A. element      B. compound      **C. homogeneous mixture**      D. heterogeneous mixture

### IV. Matching

Look at the symbol to the right and answer the questions:



- |                   |           |       |
|-------------------|-----------|-------|
| 28. Atomic number | <b>C</b>  | A. +2 |
| 29. Mass number   | <b>AB</b> | B. 24 |

30. Number of protons      **C**                      C. 26
31. Number of electrons    **B**                      D. 28
32. Number of neutrons    **E**                      E. 30
33. Charge                      **A**                      AB. 56

34. Which element below is not a noble gas?

- A. helium      **B. fluorine**      C. neon      D. argon

35. The nucleus of the atom contains:

- A. protons      B. neutrons      C. electrons      **D. protons and neutrons**

36. The particle(s) that move around the nucleus are called:

- A. protons      B. neutrons      **C. electrons**      D. protons and neutrons

37. Which of the following is not a metal?

- A. carbon**      B. sodium      C. iron      D. gold

38. How many groups are there on the periodic table?

- A. 3      B. 7      C. 9      **D. 18**

V. Matching

39. speed      **C**      A. the change in speed over an amount of time
40. velocity      **D**      B. the measure between the start point and finish point of an object
41. acceleration      **A**      C. describes how fast an object is moving
42. distance      **B**      D. describes how fast and in which direction an object is moving

43. If an object travels 40.0 meters in 8.0 s, it has a speed of:

- A. 5.0 m/s**      B. 32.0 m/s      C. 48.0 m/s      D. 320.0 m/s

44. If an object's speed increases from 25 m/s to 85 m/s over 6 seconds, its acceleration is:

- A. 10 m/s<sup>2</sup>**      B. 60 m/s<sup>2</sup>      C. 360 m/s<sup>2</sup>      D. 15 m/s<sup>2</sup>

VI. Matching

45. Acids                    **D**            A. the process of reacting an acid and base
46. Bases                   **E**            B. a measure of how acidic or basic a substance is
47. Neutralization        **A**            C. a material that changes color based on acidity
48. pH                      **B**            D. A compound with a formula that begins with H
49. indicator              **C**            E. A compound with a formula that ends with  
OH

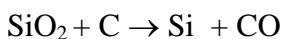
50. A material with a pH of 4 is

- A. acidic**            B. basic            C. neutral            D. organic

51. A material with a pH of 10 is

- A. acidic            **B. basic**            C. neutral            D. organic

Use the given reaction to answer the questions that follow. You may bubble in more than one circle for an answer (e.g. AB or BD)



52. The reactants above are:

- A. SiO<sub>2</sub>**            **B. C**            C. Si            D. CO

53. The products above are:

- A. SiO<sub>2</sub>            B. C            **C. Si**            **D. CO**

VII. True or false – Use A for true and B for false.

54. Light is given off when electrons move between energy levels.    **A**

55. The three primary colors of light are red, blue, and yellow.        **B**

56. Black is made by mixing all of the colors of light.                    **B**

57. Light travels as a wave    **A**

58. Humans can see all colors of light    **B**

59. What is the voltage in a circuit that has a resistance of 0.25 Ω over a flow of current equal to 0.366 A?

- A. 0.0915 V**        B. 0.683 V            C. 1.46 V            D. 2.33 V

60. What device is used to change an open circuit to a closed circuit?

- A. battery      B. light bulb      C. wire      **D. switch**

61. Which of the following is not an insulator?

- A. wood      B. rubber      **C. metal**      D. paper

62. Current that only moves one direction in a wire is:

- A. alternating current      **B. direct current**  
C. resistance      D. voltage

63. The units used to measure a battery's ability to push charges through a wire are:

- A. volts**      B. amps      C. ohms      D. joules

IX. True or false – Use A for true and B for false.

64. Heat flows from objects with less heat to objects with more heat. **B**

65. Water boils at 0 degrees Celsius. **B**

66. Water boils at 212 degrees Fahrenheit. **A**

67. Heat (energy) can be created or destroyed. **B**

68. Collisions between particles make them move faster. **A**

69. Which of the following is not a method of heat transfer?

- A. conduction      **B. insulation**      C. convection      D. radiation

70. The amount of energy needed to change the temperature of 1 gram of a substance by 1 degree is called:

- A. calorie      B. joule      **C. specific heat**      D. equilibrium

X. Matching

71. fusion      **C**      A. the process of splitting atoms to release energy

72. alpha particle      **B**      B.  ${}^4_2\alpha$

73. beta particle      **D**      C. the process of joining atoms together to release energy

74. gamma ray      **E**      D.  ${}_{-1}^0\beta$

75. fission      **A**      E.  ${}_{0}^0\gamma$

76. Which of the following is not a wave interaction?

A. reflection      B. refraction      C. diffraction      **D. resonance**

77. This occurs when two waves collide to produce larger waves.

**A. constructive interference**      B. destructive interference  
C. diffraction      D. adsorption

78. The bottom of a wave is called the

A. crest      B. wavelength      **C. trough**      D. amplitude

79. The height of a wave is called the

A. crest      B. wavelength      C. trough      **D. amplitude**

80. The measurement of sound volume is charted in terms of

A. hertz      B. meters      **C. decibels**      D. pressure

XI. True or false – Use A for true and B for false.

81. Sound travels faster than light.      **B**

82. The cochlea is responsible for allowing humans to hear sound.      **A**

83. An ambulance siren has a high frequency.      **A**

84. The length of a guitar string will produce a wave twice its length.      **B**

85. Sound travels faster through gases than solids.      **B**

86. The pivoting point on a lever is called the \_\_\_\_\_

- A. fulcrum**      B. input arm      C. output arm      D. mechanical advantage

87. Which if the following is the simple machine responsible for making a doorknob work?

- A. lever      B. pulley system      C. gears      **D. wheel and axle**

88. A crowbar is an example of a:

- A. lever**      B. pulley system      C. gears      D. wheel and axle

89. The measure of the force applied across a certain distance is:

- A. work**      B. energy      C. power      D. mechanical advantage

XI. True or false – Use A for true and B for false.

90. If a force is applied, work is done. **B**

91. Energy is the ability for a force to move an object. **B**

92. The output arm of a lever is where the force acts on an object. **A**

93. A perpetual motion machine can be built. **B**

94. All machines can be broken down into combinations of the simple machines. **A**

95. The more teeth gear has, the faster it will turn. **B**

96. A girl performs 236.5 J of work to lift a weight 1.25 m over her head. How large was the weight she lifted?

- A. 296 N      **B. 189.2 N**      C. 0.00528 N      D. 0.000114 N

97. What is the kinetic energy of a car moving at 15.2 m/s if its mass is 9256 kg?

- A. 1069253 J**      B. 140691 J      C. 70346 J      D. 375 J

98. The kinetic energy of a ball rolling down a hill is 96.5 J. If the ball has a mass of 0.566 kg, how fast is it moving?

- A. 2635 m/s      B. 27.3 m/s      **C. 18.4 m/s**      D. 15.5 m/s

99. What is the voltage in a circuit that has a resistance of  $0.75 \Omega$  over a flow of current equal to  $0.414 \text{ A}$ ?

- A. **0.3105 V**      B.  $1.81 \text{ V}$       C.  $0.552 \text{ V}$       D.  $0.223 \text{ V}$

100. What is the current in a circuit that has  $6.35 \text{ V}$  passing through a resistance of  $1.85 \Omega$ ?

- A. **3.43 A**      B.  $11.7 \text{ A}$       C.  $0.291 \text{ A}$       D.  $5.85 \text{ A}$