**STAR Test Review; Ver 3**

**Completion**

*Complete each statement.*

1. Developing a hypothesis and designing an experiment to test it is part of the process of scientific\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. Publishing an article in a scientific journal is one way that scientists \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ their conclusions.

3. Density is a measure of how much mass is contained in a given \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. An estimate is not a guess because an estimate is based on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. If you add 4.667 g and 3.2 g, the answer has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ significant figures.

6. A repeating pattern in a graph is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ trend.

7. The most important lab safety rule is to always follow your teacher’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the textbook directions exactly.

8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ means using one or more senses to gather information.

9. The study of matter, energy, motion, and forces, and how they interact, is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

10. A line graph in which the data points yield a straight line is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ graph.

11. The point where the *x*-axis and *y*-axis cross is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a graph.

12. A student increases the volume of a water sample five times to determine if the volume has an effect on the freezing point. In this experiment, the volume of water is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variable.

13. Every form of matter has two kinds of properties—physical properties and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ properties.

14. Hardness, texture, color, and freezing point are examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ properties of matter.

15. A compound may be represented by a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which shows the elements in the compound and the ratio of atoms.

16. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a group of two or more atoms that are held together by chemical bonds.

17. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a substance formed from two or more elements that are chemically combined in a set ratio.

18. Dissolving a spoonful of sugar in tea or coffee is an example of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change.

19. The tarnishing of metal is an example of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change.

20. The fact that matter is not created or destroyed in any chemical or physical change is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

21. The burning of a fuel transforms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy and releases it as thermal energy and electromagnetic energy.

22. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a measure of the average energy of random motion of particles of matter.

23. The three familiar states of matter are solid, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and gas.

24. The slow combination of a shiny metal with another substance that produces a dark coating on the metal is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

25. The energy your body obtains when you eat food originally comes from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

26. Like matter, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is never created or destroyed in chemical reactions.

27. Salt, sugar, and snow are examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solids.

28. Solids that have particles arranged in a regular, repeating pattern are known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solids.

29. When a substance cools, it loses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy to its surroundings.

30. The temperature of a substance increases when the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy of the substance increases.

31. The characteristic temperature at which a pure solid changes to a liquid is its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point.

32. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a measure of the average energy of motion of the particles of a substance.

33. To test Boyle’s law, you could change the volume of a gas and measure its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at constant \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

34. The graph of Boyle’s law shows that as the volume of a gas at constant temperature is changed, its pressure varies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the volume.

35. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the very small center core of an atom.

36. The property of an element that indicates the number of protons in its atoms is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

37. Mendeleev discovered that periodic patterns appeared when he arranged the elements in order of increasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

38. In the 1800s, Dmitri Mendeleev organized the first truly useful \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

39. A column of elements in the periodic table is called a group, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

40. Each element is given a specific \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that usually consists of one or two letters.

41. Elements that easily transmit electricity and heat display the property known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

42. Most metals are in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ state at room temperature.

43. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ particle is positively charged and consists of two protons and neutrons.

44. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a fast-moving electron given off by a nucleus during radioactive decay.

45. Chemical bonds form when valence electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between atoms.

46. Nitrate (NO3–), ammonium (NH4+), and carbonate (CO32–) are examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ions.

47. When ions having a positive charge form bonds with ions having a negative charge, the charge on the resulting compound is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

48. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes occur when bonds form between atoms, or when bonds break and new bonds form.

49. The presence of a solute makes it harder for solvent molecules to escape when heated, so the boiling point of a solution is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than that of the pure solvent.

50. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a compound that tastes sour and reacts with some metals.

51. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a compound that turns litmus blue and is often found in soaps and detergents.

52. One reason \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can form so many compounds is that the same number of atoms can be bonded in different arrangements.

53. When one carbon atom is bonded with several other carbon atoms in a single line, the structure is described as a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

54. Polymers that are produced in factories instead of by living things are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ polymers.

55. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a natural composite made of long fibers of cellulose held together by another polymer called lignin.

56. The simple carbohydrate that is present in the blood and that circulates throughout the body is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

57. The simplest kind of carbohydrate is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

58. A reference point is assumed to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or not moving.

59. When riding a bicycle past a building, you are not moving relative to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

60. The distance traveled by a moving object per unit of time is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

61. Speed that does not change is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ speed.

62. The statement that the motion of a hurricane is 20 kilometers per hour in an easterly direction is a description of the hurricane’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

63. Acceleration is the rate of change in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

64. A golf ball \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ when either its speed or direction changes.

65. The abbreviation of the unit of acceleration (meters per second per second) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

66. If a ship has an acceleration of 3 kilometers per hour per hour, its speed is expressed in the unit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

67. If two lines appear on the same motion graph, the line with the steeper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ indicates a greater speed.

68. A large truck and a small car are moving at the same speed. The truck has greater kinetic energy because its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is greater.

69. If the velocity of an object is doubled, its kinetic energy is multiplied by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

70. A quantity that consists of both a magnitude and a direction is called a(n) \_\_\_\_\_\_\_\_.

71. The overall force on an object after all the forces are added together is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ force.

72. Unbalanced forces acting on an object produce a change in the object’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

73. Wet pavement is more slippery than dry pavement because the force needed to overcome \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ friction is less than the force needed to overcome sliding friction.

74. Friction acts in a direction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to an object’s direction of motion.

75. The force of gravity between you and Earth is greater than the force of gravity between you and a car because Earth has more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the car.

76. The metric unit that is most often used to describe weight is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

77. A measure of an object’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a measure of the object’s inertia.

78. A person traveling in a car that stops suddenly keeps moving forward due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

79. According to Newton’s third law of motion, the strength of a reaction force is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the strength of the action force.

80. If the action force of a bat striking a ball accelerates the ball in one direction, the reaction force accelerates the bat in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction.

81. The momentum of an object is in the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as its velocity.

82. Because the moon travels around Earth, it is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

83. The force of gravity is responsible for continuously changing the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in which a satellite moves.

84. The pressure resulting from a force of 50 N exerted over an area of 5 m2 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pa.

85. Pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the area over which a force is distributed increases.

86. The buoyant force acts in the direction opposite the force of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

87. A block of wood is placed in a jar of water. According to Archimedes’ principle, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the block is equal to the weight of the displaced fluid.

88. Chocolate syrup sinks in milk because chocolate syrup is more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than milk.

89. An Earth-centered model of the universe is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ model.

90. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ discovered Jupiter’s four largest moons.

91. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ consists of the sun, the planets and their moons, and several kinds of smaller objects.

92. Nuclear fusion occurs in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or center, of the sun.

93. Energy is transferred from the sun’s core toward the convection zone mainly in the form of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

94. The middle layer of the sun’s atmosphere is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

95. Red light has the longest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of any color of visible light.

96. The electromagnetic waves that have the lowest frequencies are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

97. An object’s apparent change in position when viewed from two different places is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

98. A galaxy that does not have a regular shape is classified as a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ galaxy.

99. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ galaxy has a characteristic pinwheel shape.