Hohete Tibeb Share Company
Education and Technology Team
Ethio-Parents' Schools: Addis Ababa (Gerji/Gullele) and Hawassa.
Chemistry centralized worksheet 9 for Grade 8

December 11. 2019 **Marks 60%**

Name _____ *Section* _____ *campus* _____

1. Among the basic concerns of chemistry the one that deals with qualitative and quantitative determination of a sample is
   A. Property C. Composition
   B. Transformation D. Structure
2. Which of the following shows the close relationship between biology and chemistry?
   A. Chemistry and biology are concerned with inanimate matter
   B. Chemistry and biology are concerned with matter and energy
   C. Chemistry aids biology by dealing with the structure of proteins
   D. Discoveries in chemistry have found uses in space technology
3. Chemists recycle a used can rather than throwing it away because chemistry is concerned with
   A. Investigation of natural phenomena
   B. Economical utilization of natural resources
   C. The discipline of measurement
   D. The functioning of measurement of living organisms
4. Which of the following shows the essence of chemistry as a science concerned with economical utilization of natural resources?
   A. Production of food stuffs C. Recycling materials
   B. Making medicines D. Synthesis of rubber
5. Specific aspects of matter and their composition is studied in
   A. physics C. Biology
   B. Chemistry D. mathematics
6. Which of the following statements is true about chemistry? Chemistry is
   A. a science dealing with general aspects of matter and energy
   B. a science concerned with the study of living things
   C. the study of the nature and behavior of substances
   D. unrelated with the other branches of science
7. Which one of the following industries is a chemical industry?
   A. 'Chora" gas factory
   B. 'Birhan and Selam' printing press
   C. 'Bishoftu' Car Assembly
   D. 'Saint Paul' Referral Hospital
8. The knowledge of chemistry is applied in agriculture in the process of production of:
   A. Dyes C. Beverages
   B. Rubber D. Herbicides
9. A branch of natural science which studies the chemical composition, structure and reaction of compounds found in living organisms is called_____.
   A. organic chemistry C. biochemistry
   B. inorganic chemistry D. physical chemistry
10. In Ethiopia, sulphuric acid is produced in
    A. Awash Melkasa C. Zeway
    B. Addis Ababa D. Bulbula
11. Chemicals that are applied on agriculture lands to remove unwanted plants or weeds are called____.
    A. Detergents C. Herbicides
    B. Pesticides D. Cosmetics

12. Which of the following chemical industries in Ethiopia mainly serves for cleaning purposes?
    A. Cement C. Paint
    B. Detergent D. Agrochemical

13. Which of the following processes best explains the physical change?
    A. Grinding salt C. Photosynthesis
    B. Rusting of zinc D. Burning of sugar

14. Which of the following action is a chemical change?
    A. Dissolution of sodium chloride in water
    B. Boiling of alcohol
    C. Burning of carbon
    D. Mixing of sugar with wheat

15. Which of the following distinction regarding physical and chemical changes is correct?
    A. Physical change is where new substance is formed and difficult to reverse.
    B. A chemical change is where heat change is small and new substance is formed.
    C. Physical change is where there is no change in mass and the change is easily reversible.
    D. Chemical change is where there is large heat change involved and where the change is easily reversible.

16. What can you say about the components of a mixture?
    A. Components separated by chemical means
    B. Components retain their own properties
    C. Components combined in an definite ratio
    D. Components when they mixed give out heat or light energy

17. A mixture that has uniform composition and properties throughout is
    A. heterogeneous C. pure substance
    B. compound D. homogeneous

18. Which of the following groups of elements are metalloids?
    A. Sn, Pb, Hg C. P, S, Cl
    B. Be, Ge, Sb D. Li, Be, Al

19. Separatory funnel is used to separate mixtures of
    A. oil and water. C. sand and sugar
    B. alcohol and water D. iron and Gold

20. Identify the heterogeneous mixture among the following
    A. Sea water C. Blood
    B. Bronze D. Air

21. Distillation is used in the process of preparation of
    A. Coffee C. Tella
    B. Araki D. Honey

22. Grade 8 students in a certain school were given the task of separating iron filings sand and salt. Which of the following process is the most appropriate order?
    A. Evaporation → Dissolution → Filtration→ Magnetic separation
    B. Dissolution→ Magnetic separation→ Filtration Evaporation
    C. Magnetic separation → Dissolution→ Filtration Evaporation
    D. Magnetic separation→ Evaporation → Dissolution Filtration

23. The physical constants of a substance 'X' are given in the table below

Physical properties	Constant
1. Melting point	1530^0c
2. Solubility in water	Insolubel
3. Density	$7.86 g/cm^3$
4. Boiling point	3000^0c

Table 1 physical constants of 'X'

Substance 'X ' is likely to be:
    A. Sodium chloride C. Iron
    B. Benzene D. Water

24. Which of the following is an example of chemical change?
    A. Heating candle wax C. Evaporation of sea water
    B. Grinding rock salt D. Souring milk

25. A mixture of insoluble solid and a liquid is called____.
    A. suspension C. solution
    B. solvent D. solute

26. What is the mass of 200 cm^2 of aluminum if the density of aluminum is 2.7/cm^3?
    A. 270g C. 540g
    B. 600g D. 810g

27. The conversion of a gas directly to a solid is called _____.
    A. freezing C. melting
    B. deposition D. Sublimation

28. Unlike homogenous mixtures, heterogeneous mixtures
    A. have uniform distribution of components throughout.
    B. consist of components that can be seen with naked eyes or microscope.
    C. consist of only one phase.
    D. have components that can be separated only by chemical means.

29. Which of one the following industrial processes uses fractional distillation?
    A. Separating iron and steel from glass and plastic
    B. Large scale production of common salt
    C. production of drugs like penicillin
    D. production of fuels such as petrol and diesel oil

30. A mixture of cyclohexane, toluene, ethyl alcohol and water is to be separated. The boiling of the liquids are given in the table below which component is vaporized first?

Substance	**Boiling point in ^{0}c**
Cyclohexane	810c
Water	1000c
Toluene	1110c
Ethyl alcohol	780c

    A. Ethyl alcohol C. Toluene
    B. water D. cyclohexane

31. What is the formula of copper(II)nitrate?
    A. $CuNO_3$ C. $Cu(NO_3)_2$
    B. $CuNO_2$ D. $Cu(NO_2)_2$

32. Which of the following statements describes a chemical property?
    A. Mercury has silvery colour
    B. Iron corrodes in moist places
    C. Oil floats over water
    D. Table salts melt at 801^0c

33. Which of the following statements is true?
    A. Solubility of NaCl is higher at 50 ^{0}C than at 40 ^{0}C.
    B. Solubility of cerium sulfate is higher at 20 ^{0}C than at 40^0C.
    C. Solubility of potassium nitrate is higher at 10^0 C than at 40 ^{0}C.
    D. Solubility of sodium chlorine is higher at 10^0 C than at 30^0C.

34. Two immiscible liquids can be separated by using:
    A. Filter paper C. Magnets
    B. distillation apparatus D. separatory funnel

35. One of the following is **Not** a mechanical change?
    A. Powdering C. Breaking
    B. Burning D. Hammering

36. What technique of separation is used to get a cup of clear coffee?
    A. Decantation C. Distillation
    B. Crystallization D. Evaporation

37. Which letter represents deposition in the figure below?

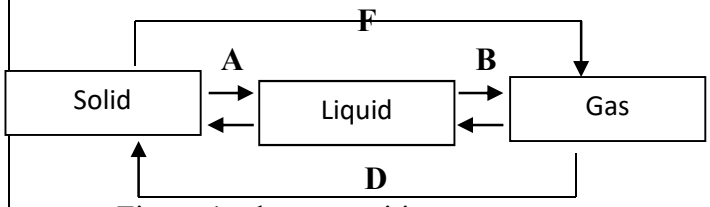


Figure 1. phase transitions

    A. E C. D
    B. A D. B

38. Which of the following physical processes can be used to separate honey from its comb?
    A. Decantation C. Distillation
    B. Filtration D. Sedimentation

39. Which of the following is an appropriate procedure to separate NH_4Cl (sublimely) Iron filings, table salt and sand?
   A. Sublimation→ Magnetic separation → Dissolution → Filtration
   B. Distillation→ Filtration → Sublimation → Magnetic separation
   C. Magnetic separation → Distillation → Sublimation → Dissolution
   D. Dissolution→ Filtration→ Magnetic separation → Distillation

40. Which of the following is a homogenous mixture?
   A. Milk C. Blood
   B. Dusted air D. Bronze

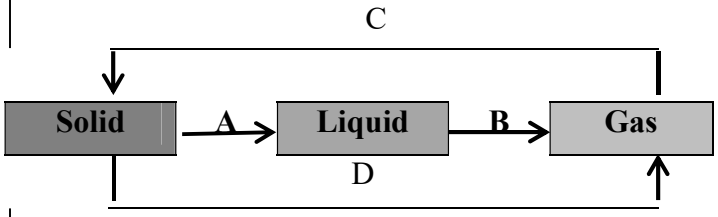
41. One of the following is a physical property recognized by our sense organs
   A. boiling point. C. density.
   B. odor D. melting Point.

42. Elements exist in diatomic and polyatomic molecular form EXCEPT
   A. Sulfur C. Ozone
   B. Chlorine D. Helium

43. Which one of the following is wrong about the properties of a substance?
   A. Two substances can have exactly the same set of properties
   B. Properties are characteristics that give a substance its identity
   C. Properties enable us to distinguish one kind of substance from another
   D. No two substances have exactly the same set of properties

44. The relative number of molecules of reactants and products are expressed by
   A. Chemical formula C. Symbol
   B. Chemical equation D. word equation

45. In the figure below, in which one of the following physical processes do the letters A, B, C, and D are represented respectively?



   A. Boiling, Melting, sublimation, deposition.
   B. Boiling, melting, deposition, sublimation
   C. Melting, Boiling, deposition, sublimation.
   D. Melting, Boiling, sublimation, deposition

46. Which of the following is NOT the correct representation of 3Na?
   A. Three atoms of sodium
   B. Three moles of atoms of sodium
   C. Three molecules of sodium
   D. 3 x 23 g of atoms of sodium

47. The valence of iron (Fe) in Fe_2O_3 is ____
   A. -3 C. +2
   B. 3 D. -2

48. When the equation
   $Fe + Cl_2 \rightarrow FeCl_3$ is balanced the coefficient of Cl_2 is
   A. 2 C. 3
   B. 4 D. 6

49. The chemical symbol of the element Tungsten is
   A. W C. Tg
   B. As D. Bi

50. What is the formula of Iron(III) phosphate?
   A. $Fe_2(PO_4)_3$ C. $Fe\ PO_4$
   B. $Fe_3\ (PO_4)_2$ D. $Fe(PO_4)_3$

51. According to the law of conservation of mass
   A. matter can be created .
   B. total mass of reactants is equal to total mass of products.
   C. matter can be destroyed.
   D. total mass of reactants is greater than that of reactants.

52. The formula $2O_3$ shows.
    A. Six separate oxygen atoms
    B. Three oxygen molecules containing two atoms
    C. Six oxygen molecules containing two atoms
    D. Two oxygen molecules containing three atoms

53. Which of the following is terratomic?
    A. Sulfur C. Phosphorous
    B. Oxygen D. Nitrogen

54. When the equation $Al + H_2SO_4 \rightarrow Al_2(SO_4)_3 + H_2$ is balanced, the coefficient of H_2SO_4 will be
    A. 6. C. 5.
    B. 4. D. 3.

55. Which of the following names of elements is derived from the Latin name of colors?
    A. Strontium C. Californium
    B. Iodine D. Chlorine

56. The correct chemical formula of the compound composed of ammonia (NH_4^+) and phosphate (PO_4^{3-}) ions is:
    A. $(NH_4)_2(PO_4)_3$ C. NH_4PO_4
    B. $NH_4(PO_4)_3$ D. $(NH_4)_3PO_4$

57. The law which states that the mass of substances before and after reaction are equal is called the law of _____.
    A. multiple proportions C. definite proportions
    B. conservation of mass D. reciprocal proportions

58. In the following balanced chemical equation, what is the total number of atoms in the reactant side?
    $3Cu + 8HNO_3 \rightarrow 3Cu(NO_3)_2 + 2NO + 4H_2O$
    A. 43 C. 24
    B. 18 D. 15

59. Which of the following is the correct balanced equation for the reaction between magnesium and nitrogen?
    A. $Mg + N \rightarrow MgN$ C. $3Mg + N_2 \rightarrow Mg_3N_2$
    B. $Mg + N_2 \rightarrow MgN_2$ D. $2Mg + 2N_2 \rightarrow Mg_2N_2$

60. Kalium is the Latin name for:
    A. Calcium C. potassium
    B. copper D. Chlorine

61. Which One of the following is a solid diatomic element?
    A. Iodine C. Chlorine
    B. Phosphorous D. Fluorine

62. Which one of the following is the chemical formula for Ammonium phosphate?
    A. NH_4PO_4 C. $(NH_3)_3Po_4$
    B. $(NH_3)_4PO_4$ D. $(NH_4)_3PO_4$

63. $XA1 + YO_2 \rightarrow Z\,A1_2O_3$
    When the above equation is balanced, the sum of the coefficients X,Y and Z is:
    A. 12 C. 9
    B. 6 D. 11

64. A metallic element "X" forms an ion X^{2+}. What will be the formula of the Nitrate of X?
    A. XNO_3 C. $X(NO)_3$
    B. X_2NO_3 D. $X(NO_3)_2$

65. The number of protons in an atom is known as:
    A. Atomic number C. Valency
    B. Mass number D. Atomic mass

66. A particle has 11 protons, 10 electrons and 12 neutrons. What would be the correct electronic arrangement of the particle in the main energy levels?
    A. 2,8,1 C. 2,8
    B. 2,8,2 D. 2,8,3

67. From the following species which one is a diatomic molecule?
    A. Chlorine C. Sulfur
    B. Phosphorus D. Carbon

68. The mass number of an element is the
    A. number of protons.
    B. sum of the number of protons and electrons.
    C. number of electrons.
    D. sum of the number of neutrons and protons.

69. What is the number of Neutrons in $^{52}_{24}Cr^{+3}$?
    A. 23 C. 24
    B. 25 D. 26

70. Which of the following is true about the structure of an atom?
    A. Elements are parts of the nucleus
    B. Neutrons are positively charged components
    C. Neutrons are the heaviest substance particles
    D. Protons revolve around the nucleus

71. The electron configure of Ar (Z=18) is
    A. 2,8,8. C. 2,16.
    B. 2,8. D. 8,2,8.

72. Which of the following is true about the historical development of atomic theory?
    A. Aristotle supported the idea of the discreet nature of matter.
    B. Democritus beloved that matter is continuous.
    C. Dalton proposed that atoms are divisible.
    D. Modern atomic theory states that all substances are made of.

73. The Greek philosopher who proposed the concept of an atom was:
    A. Dalton C. Aristotle
    B. Robert Boyle D. Democritus

74. In all chemical reactions the total mass of the reactants is equal to that of the products. This Law is:
    A. Law of constant proportion
    B. Law of conservation of mass
    C. Law of mass action
    D. Law of multiple proportions

75. How many atoms are present in (4 $NaNO_3$)?
    A. 16 C. 20
    B. 14 D. 18

76. How many kinds of molecules are involved in the following equation?
    $2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O$
    A. 21 C. 19
    B. 4 D.6

77. The horizontal row of elements in the periodic table is called
    A. Group C. Family
    B. Period D. Block

78. Which one of the following is the shortcoming of Dalton's atomic theory?
    A. Atoms of the same element have the same mass
    B. Matter consists of very small particles called atoms
    C. Atoms of one element are different from atoms of other elements in mass and other properties
    D. Atoms combine in a fixed small whole number ratio to form compounds

79. Which one of the following is the lightest sub-atomic particle?
    A. Proton C. Ion
    B. Electron D. Neutron

80. How many electrons are there in $A1^{3+}$?
    A. 8 C. 10
    B. 13 D. 3

81. $3H_2$ contains:
    A. Three hydrogen molecules
    B. Two hydrogen atoms
    C. Three hydrogen atoms
    D. Six hydrogen molecules

82. What would be the atomic number of atom with six valence electrons?
    A. 12 C. 6
    B. 10 D.8

83. Which of the following is NOT true about modern atomic theory?
    A. An element is made of atoms.
    B. All atoms of the same element have same number of neutrons.
    C. Atoms of different elements combine in small whole numbers to form compounds.
    D. Atoms of different elements are different because of the different number of protons.

84. An atom $\underline{24}$ Mg contains:
    A. 12 protons, 14 neutrons, 12 electrons
    B. 12 protons, 12 neutrons, 12 electrons
    C. 12 protons, 6 neutrons, 6 electrons
    D. 6 protons, 6 neutrons, 6 electrons

85. The statement "When elements are arranged in increasing atomic mass every eighth elements has similar properties to the first one "is known as:
A. Mendeleev's law C. Mosley's law
B. The triad law D. The law of octet

86. An element is found in group IV and period 3 of the periodic table; then the electronic configuration of the elements is:
A. 2,8,4 C. 2,8,3
B. 2,8,18,4 D. 2,8,8

87. Atoms of an element have seven valence electrons: then the element is found in _____of the periodic table.
A. period seven C. The seventh row
B. Group seven D. The seventh column

88. Which of the following is NOT useful in giving information of the periodic table?
A. To simplify the study of properties of element.
B. To compare reactivity of the elements.
C. To predict new elements.
D. To indicate occurrence of the elements.

89. Which of the following is among the shortcomings of Mendeleev's periodic table?
A. Elements were arranged by their atomic number
B. Some elements were not placed in their exact position
C. Gaps were left for some undiscovered elements
D. It helped the discovery of new elements

90. In the modern periodic table, properties of elements are periodic function of their:
A. Atomic mass C. Atomic size
B. Atomic number D. Mass number

91. An element has the electron configuration 2,8,7. The element is found in
A. period 3, group VIIA. C. period 7, group IIIA.
B. Period 2, group IA. D. Period 4, group IIA.

92. Element Y is a gaseous non- metal with high electron affinity and electro negativity its location in the periodic table is likely to be
A. s – Block. C. p – Block.
B. d- Block. D. f- Block.

93. Substance "X" is a hard, lustrous solid which readily conducts heat and electricity "X" is likely to be
A. Metalloid. C. non – metal.
B. Salt. D. metal.

94. An element 'X' reacts with a metal to form a salt. To which group of the periodic table could the element 'X' be found?
A. Group I C. Group II
B. Group VII D. Group VIII

95. In sodium ion, Na^+ (Atomic number No = 11) number of
A. electron and protons are equal.
B. protons is greater than number of electrons.
C. protons is less than number of electrons
D. electron is greater than number of neutrons.

96. What is the electron configuration of silicon? (Si = 14)?
A. 2, 8, 4 C. 2, 12
B. 2, 12,2 D. 2,8,8,4

97. The collective name given to protons and neutrons is
A. nucleus C. atom
B. molecule D. nucleon

98. How many elements are there in the third period of the modern periodic table?
A. 2 C. 18
B. 8 D. 32

99. Group VII Elements are called _____.
A. halogens C. alkali Metals
B. chalcogens D. alkaline earth metals

100. What compound is represented 'Y' in the following chemical equation?
$Y + H_2O \rightarrow H_2SO_3$
A. SO_2 C. SO_3
B. S_2O_3 D. S_2O_5