Grade 11 Chemistry

Unit 3: Physical States of Matter

CHEMISTRY WORK SHEET-3 FOR GRADE-11STUDENTS(2018 E.C)

CHOOSE THE BEST ANSWER AMONG THE GIVEN ALTERNATIVE AND JUSTIFY YOUR ANSWER WITH EVIDENCES.

1. The state of matter with definite shape and volume is:

A) Gas B) Liquid C) Solid D) Plasma

2. The state with definite volume but no definite shape:

A) Solid B) Liquid C) Gas D) Plasma

3. The state with neither definite shape nor volume:

A) Solid B) Liquid C) Gas D) Crystal

4. Intermolecular forces are strongest in: A) Gas B) Liquid C) Solid D) Plasma

5. Compressibility is highest in: A) Solid B) Liquid C) Gas D) Ice

6. Diffusion is fastest in: A) Solid B) Liquid C) Gas D) Crystal

7. The kinetic molecular theory mainly explains behavior of:A) Solids B) Gases C) Metals D) Salts

8. Gas pressure is caused byA) B) Volume C) Particle collisions D)Temperature only

9. SI unit of pressure: A) atm B) mmHg C) Pascal D) bar

10. Standard atmospheric pressure equals: A) 100 kPa B) 101.3 kPa C) 110 kPa D) 98 kPa

11. Boyle's law relates pressure and: A) Temperature B) Volume C) Mass D) Density

12. Boyle's law formula: A) PV = constant B) V/T = constant C) P/T = constant D) PV/T = constant

13. If pressure increases, volume:A) Increases B) Decreases C) Constant D) Doubles

14. Charles's law relates volume and: A) Pressure B) Temperature C) Mass D) Density

15. Charles's law formula: A) V/T = constant B) PV = constant

C) P/T = constant D) PT = constant

16. Temperature must be measured in: A) Celsius B) Fahrenheit C) Kelvin D) Rankine

17. 0°C equals: A) 0 K B) 100 K C) 273 K D) 300 K

18. Avogadro's law relates volume and: A) Pressure B)Temperature C) Moles D) Density

19. Ideal gas equation: A) PV = nRT B) PVT = R C) PV = RT D) P = nRT

20. R (gas constant) value in L·atm/mol.k : A) 0.0821 B) 8.31 C) 101.3 D) 22.4

21. Solid → Liquid: A) Freezing B) Melting C) Condensation D) Sublimation

22. Liquid → Gas: A) Condensation B) Freezing C) Vaporization D) Deposition

23. Gas → Liquid: A) Freezing B) Condensation C) Sublimation D) Melting

24. Solid → Gas directly: A) Melting B) Sublimation C) Vaporization D) Freezing

25. Gas → Solid: A) Deposition B) Sublimation C) Condensation D) Melting

26. The energy required to change solid to liquid at constant temperature is:

A) Specific heat B) Latent heat of fusion

C) Latent heat of vaporization D) Activation energy

27. The energy required to change liquid to gas at boiling point:

A) Heat capacity B) Latent heat of fusion

C) Latent heat of vaporization D) Thermal energy

28. During melting, temperature: A) Increases B) Decreases

C) Remains constant D) Doubles

29. During boiling, temperature: A) Increases B) Remains constant

C) Decreases D) Fluctuates

30. A heating curve shows: A) Pressure vs volume B) Temperature vs time

C) Volume vs moles D) Pressure vs temperature

31. Flat portions of heating curve indicate: A) Cooling B) Temperature rise

C) Phase change D) Pressure change

32. Boiling occurs when vapor pressure equals: A) Internal pressure B) Atmospheric pressure C) Zero D) Critical pressure

33. Vapor pressure increases when: A) Temperature decreases

B) Surface area decreases C) Temperature increases D) Pressure increases

34. A liquid with high vapor pressure: A) Is nonvolatile B) Is volatile

C) Has strong forces D) Has high viscosity

35. Strong intermolecular forces cause: A) High vapor pressure B) Low boiling point

C) High boiling point D) Low melting point

36. The normal boiling point is measured at: A) 0 atm B) 0.5 atm C) 1 atm D) 2 atm

37. Increasing external pressure: A) Lowers boiling point B) Raises boiling point

C) No effect D) Stops evaporation

38. Water boils below 100°C at high altitude because: A) High pressure B) Low pressure C) High density D) Low vapor pressure

39. The triple point is: A) Highest temperature B) Lowest pressure C) Where all three phases exist D) Boiling point

40. The critical temperature is: A) Lowest temperature B) Highest temperature liquid can exist C) Melting point D) Freezing point

41. Above critical temperature: A) Gas can liquefy B) Liquid forms

C) No liquid forms D) Solid forms

42. Phase diagram shows relation between: A) Mass & volume B) Pressure & temperature C) Volume & time D) Heat & density

43. The line between solid and liquid in phase diagram represents:

A) Sublimation B) Fusion C) Vaporization D) Deposition

44. The line between liquid and gas represents: A) Melting B)

Freezing
C) Vaporization D) Deposition

45. Sublimation occurs along: A) Solid-liquid line B) Liquid-gas line
C) Solid-gas line D) Critical point
46. For most substances, solid-liquid line slopes:

A) Left B) Right C) Horizontal D) Vertical
47. Water is unusual because its solid-liquid line slopes:

A) Right B) Upward C) Left D) Flat
Answer: C Explanation: Ice is less dense than liquid water.

48. Critical point lies at: A) End of liquid-gas curve B) Triple point
C) Freezing line D) Sublimation line
49. Supercritical fluid exists: A) Below triple point B) Above critical point
C) At melting point D) At freezing point
50. Latent heat depends on: A) Mass B) Substance nature
C) Phase change type D) All of these
51. Evaporation occurs: A) At boiling point only B) At any temperature
C) At 0°C only D) At critical temp
52. Evaporation causes cooling because: A) Low energy particles leave
B) High energy particles leave C) Pressure decreases D) Volume increases
53. The plateau during vaporization represents: A) Heating solid B) Heating liquid
C) Breaking intermolecular forces D) Cooling gas

54. Deposition is: A) Solid → liquid B) Gas → solid C) Liquid → gas D) Solid → gas

55. Dry ice changes directly to gas by A) Melting B) Freezing

C) Sublimation D) Condensation
56. The stronger the intermolecular force, the: A) Lower melting point
B) Higher melting point C) Lower boiling point D) Higher vapor pressure
57. A heating curve has how many phase-change plateaus? A) 1 B) 2 C) 3 D) 4
58. During freezing, heat is: A) Absorbed B) Released C) Destroyed D) Created

59. During condensation, heat is: A) Absorbed B) Released C) Doubled D) Zero
60. The phase with highest energy is: A) Solid B) Liquid C) Gas D) Crystal
61. Boiling point depends on: A) External pressure B) Intermolecular forces
C) Substance nature D) All of these
62. Surface tension is due to: A) Gravity B) Intermolecular forces
C) Pressure D) Temperature
63. Capillary action depends on: A) Density B) Adhesion & cohesion C) Mass D) Pressure
64. Viscosity means: A) Thickness B) Density C) Volume D) Pressure
65. Crystalline solids have: A) Random arrangement B) Regular pattern
C) No shape D) No melting point

66. Amorphous solids: A) Have definite melting point B) Lack regular arrangement
C) Are gases D) Conduct electricity
67. Ionic solids have: A)Weak forces B) Metallic bonding C) Ionic bonding D) No bonds
68. Metallic solids are good conductors because: A) Fixed electrons

B) Free-moving electrons C) Weak bonds D) Low density
69. At STP, 1 mole gas occupies: A) 20 L B) 22.4 L C) 24 L D) 18 L
70. Increasing temperature increases: A) Density B) Pressure (if volume constant)
C) Mass D) Moles
71. Real gases deviate at: A) High T, low P B) Low T, high P C) STP D) Room conditions
72. Triple point is where: A) Gas exists B) Solid exists

C) All three phases coexist D) Melting occurs
73. Critical temperature is: A) Lowest temp B) Temp gas liquefies at any pressure
C) Highest temp liquid can exist D) Melting temp

By grade 11 chemistry teachers