



**INDIAN SCHOOL AL WADI AL KABIR**

<b>Class: IX</b>	<b>Department: SCIENCE 2020 -2021</b> <b>SUBJECT : CHEMISTRY</b>	<b>Date of completion:</b> <b>25.05.2020</b>
<b>Worksheet No: 01</b> <b>WITH ANSWERS</b>	<b>CHAPTER:</b> <b>MATTER IN OUR SURROUNDINGS</b>	<b>Note:</b> <b>A4 FILE FORMAT</b>
<b>Name of the student:</b>	<b>Class &amp; Sec:</b>	<b>Roll No:</b>

**MULTIPLE CHOICE QUESTIONS (1 MARK)**

1. (b) Evaporation
2. (a) Latent heat
3. (c) Boiling point above room temperature and melting point below room temperature.
4. (a) Solids
5. (c) High pressure, low temperature
6. (d) Condensation.

**ASSERTION & REASON TYPE QUESTIONS (1 MARK)**

7. Ans:- Both A and R are true and R is the correct explanation of the assertion.
8. Ans:- Both A and R are true and R is the correct explanation of the assertion.
9. Ans:- A is true but R is false.

**ONE MARK TYPE QUESTIONS (OBJECTIVE TYPE QUESTIONS)**

10. (i) Particles of matter have space between them  
(ii) Particles of matter attract each other.  
(iii) Particles of matter are continuously moving. (any two)
11. The temperature at which a solid changes to liquid at atmospheric pressure is known as the melting point of the solid.
12. Sponge.
13. Liquid.
14. As temperature increases, rate of evaporation increases.
15. Camphor, Ammonium chloride, Naphthalene.

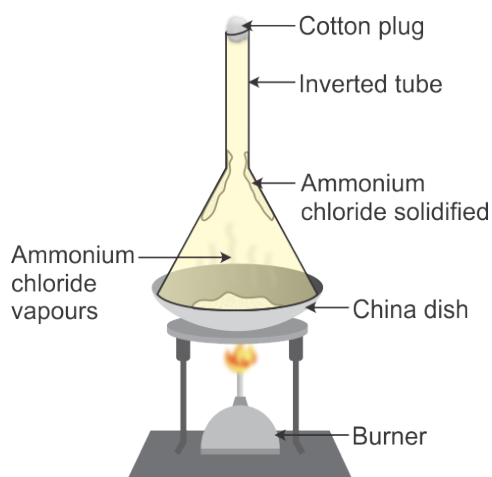
### **THREE MARKS TYPE QUESTIONS**

16. (i) Rubber band changes shape under force and regains the shape when the force is removed. So, it is classified as a solid.  
(ii) In the gaseous state, particles move freely and have greater space between them. So they occupy the entire space available. Hence, gases completely fill the vessel in which they are kept.
17. (i) Yes, generally liquids have lower density than solids. But in case of ice which is a solid, the structure of ice is such that there are vacant spaces between water molecules thus making ice lighter than water. Hence ice floats on water.  
(ii) Dry ice is solid carbon dioxide.
18. (i) The amount of heat energy that is required to change 1 kg of a solid into liquid at atmospheric pressure at its melting point is known as the latent heat of fusion. Latent heat of vaporisation is the heat energy required to change 1 kg of a liquid to gas at atmospheric pressure at its boiling point.  
(ii) Stronger the intermolecular forces of attraction, higher would be the boiling point.
19. The temperature remains constant during the change of state of matter because the supplied heat energy is used to break the force of attraction between the particles. (ie, the heat energy is used to change the state of matter.)
20. Boiling is bulk phenomenon. The bulk of the liquid is heated(to its boiling point). Particles attain higher kinetic energy and convert into vapours. Evaporation is a surface phenomenon. This can happen at any temperature below the boiling point of a liquid.

### **FIVE MARKS TYPE QUESTIONS**

21. (i) Rate of evaporation depends on humidity present in air. Humid air already has large amount of water vapour, so rate of evaporation is slow.  
(ii) We perspire more during summer. Cotton is a good absorber of water. It absorbs sweat and exposes it for easy evaporation. As a result body feels cool and comfortable. (Evaporation results in cooling) So, we should wear cotton clothes during summer.  
(iii) Ice will lower down body temperature more because it will take latent heat of fusion from our body and fever will come down faster.
22. (a) Convert the following temperatures to Celsius scale:  
(i)  $300-273=27^{\circ}\text{C}$  (ii)  $573-273=300^{\circ}\text{C}$  (iii)  $100-273=-173^{\circ}\text{C}$   
(a) Convert the following temperatures to Kelvin scale:  
(i)  $250+273=523\text{K}$  (ii)  $100+273=373\text{K}$
23. (a)  $\text{CO}_2$  is a gas. It can fill the container completely and no definite volume.  
(b) By applying high pressure at low temperature.  
(c) CNG – Compressed natural gas  
LPG – Liquefied petroleum gas

24. (a) Matter is anything which has mass and occupies space.  
 (b) Liquid particles move faster than solid particles and there is more space between liquid particles compared to solid particles.  
 (c) Gases- They do not have definite shape, they have no definite volume.  
 Solids- They have definite shape and definite volume.
25. Sublimation is the direct change of solid to gas or gas to solid.



### **PREVIOUS YEAR BOARD QUESTIONS**

26.

- (a) The sugar particles get into the space between water particles. (This shows that there is space between particles of matter.)  
 (b) When a person has fever, his body temperature becomes more than the normal body temperature. If we put strips of wet cloth on the forehead of a person suffering from high fever, the water evaporates taking heat from the body. Thus, moist strips will lower his body temperature.  
 (c) Naphthalene is a sublimable substance. It will change to vapours by absorbing heat energy from the surroundings.  
 (d) A wooden table should be called a solid because it maintains its shape even when subjected to outside force.  
 (e) Dogs generally hang out their tongue in summer because they get saliva on their tongue, so they feel warm and puts their tongue out and dogs doesn't have sweat pores on their body so dogs put their tongue out to get saliva evaporate and feel cool.

27. (a) Evaporation causes cooling. For evaporation, the liquid absorb heat energy (equal to latent heat of vaporization) from the surroundings.

(b) (i) If we put acetone or perfume on our palm, our palm feel cold because acetone or perfume absorb heat energy from our palm and evaporate.

(ii) Water kept in earthen pot becomes cool during summer. (for the evaporation of water, heat energy is absorbed from the water taken in the earthen pot.)

28. (i) Temperature:- As temperature increases, rate of evaporation increases.

(ii) Surface area:- As surface area increases, rate of evaporation increases.

(iii) Humidity:- As humidity increases, rate of evaporation decreases.

(iv) Wind speed:- As wind speed increases, rate of evaporation increases.

29. Steam produces more severe burns as it has extra energy in the form of latent heat of vaporisation.

30. The three states of matter arise due to variation in the characteristics of the particles.

High intermolecular force of attraction, least intermolecular space and minimum movement of particles result in closely packed particles which make a solid. Weaker intermolecular force of attraction, less intermolecular space and small kinetic energy means particles are less compactly packed which makes a liquid. Almost no intermolecular force of attraction, large space between particle and high kinetic energy allow the particles to move randomly giving a gas.

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