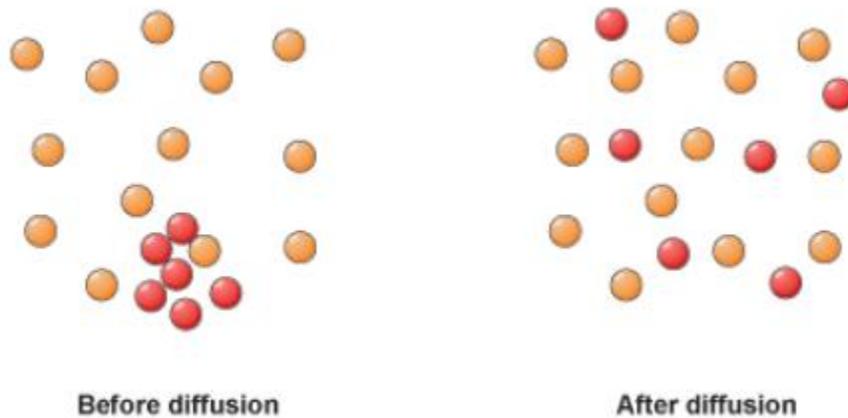


SCIENTIFIC LITERACY

THEME : PROPERTIES OF MATTER

UNIT 1 : DIFFUSION

Rohit was passing through a road on his car. He passed by a dumping ground which was about 200m from the road. The smell from dumping ground was intolerable for him. Even the perfume of the car could not help him. He discussed the reason for spreading the smell to the long distance with his teacher. He explained thoroughly and then Rohit explained it to his grandfather with the help of a diagram



Question 1

What is the reason for spreading the smell to long distance?

- (a) Evaporation
- (b) Diffusion
- (c) Sublimation
- (d) Transpiration

Question 2

How will you explain it with the help of given diagram?

Question 3

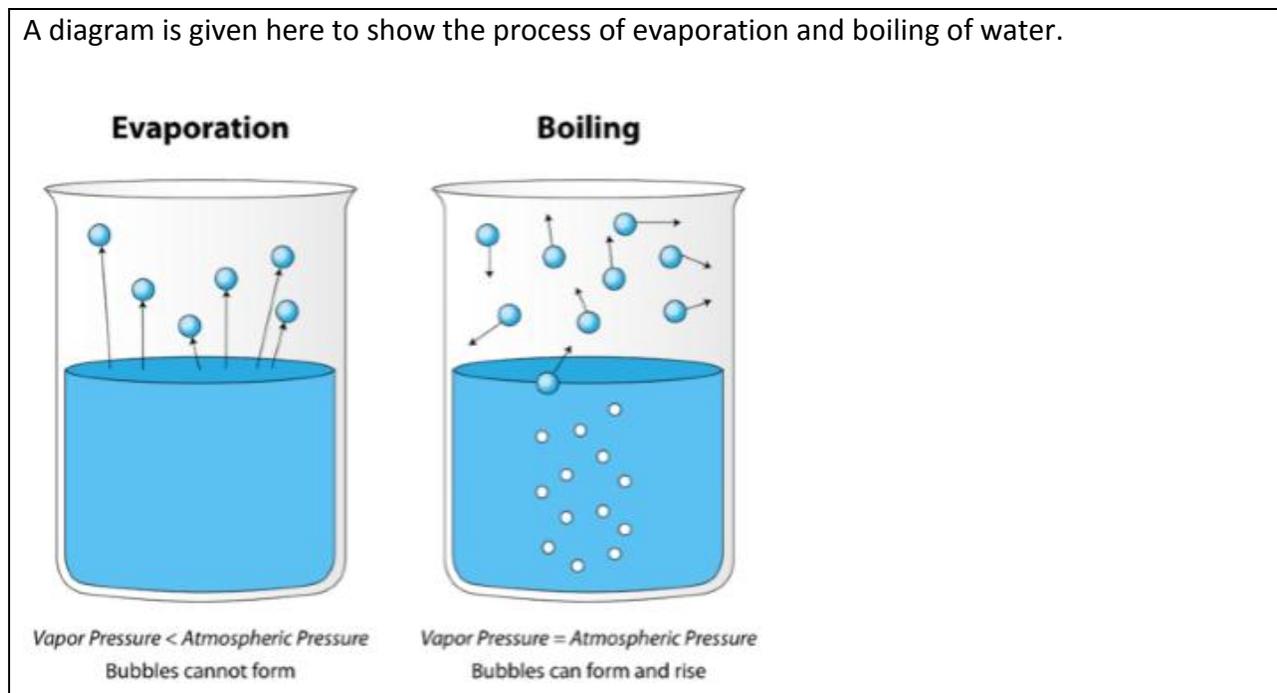
Explain why the perfume of the car could not remove the smell of dumping ground?

Question 4

Which motion the particles perform during diffusion?

Unit 2 : EVAPORATION

A diagram is given here to show the process of evaporation and boiling of water.



Question 1

Which of the following is correct?

- (a) The temperature of boiling and evaporation is equal.
- (b) The temperature of boiling is smaller than the temperature of evaporation.
- (c) The temperature of boiling is higher than the temperature of evaporation.

(d) The temperature of boiling and evaporation varies from substance to substance.

Question 2

Explain the reason for the formation of the bubbles when vapour pressure is equal to atmospheric pressure.

Question 3

If you put some sprit on your palm, it vanishes in few seconds and your palm becomes cold.is it the phenomena of evaporation or vaporization? Explain.

Question 4

Arrange in ascending order in terms of energy required.

Evaporation, vaporization, diffusion,

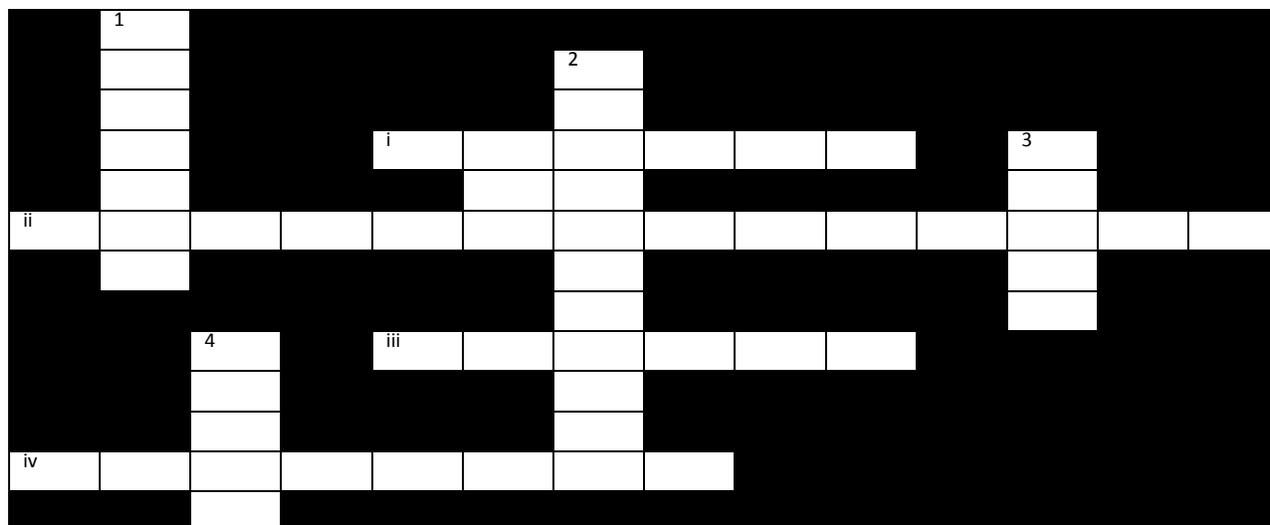
UNIT 3 :CROSSWARD

ACROSS:

- i. State of matter containing super excited particles of high energy order. (6)
- ii. Force between particles of matter. (14)
- iii. Heat during change in state. (6)
- iv. Phenomena of conversion of liquid into solid. (8)

DOWN

- 1. Phenomena of converting solid into liquid. (7)
- 2. Surface phenomena resulting at lowering of temperature. (11)
- 3. State of matter designed as incompressible. (5)
- 4. The substance found in all the three states on earth. (5)



UNIT 4 : SPECIAL CHARACTERISTICS OF WATER

Reeta was helping her mother in doing household work. While opening the freezer of refrigerator she observed some water vapors were coming out of it. She was surprised to see that it was a cold steam. She served the cold drink with ice-cubes to the guests and thinking the special behavior of water.

Question 1

The water vapor coming out of the freezer were of the temperature

- (a) 0°C
- (b) 0 K
- (c) Room temperature
- (d) 100°C

Question 2

Normally the density of solid is greater than its liquid state, then why ice floats on water?

Question 3

The temperature of ice is usually 0°C, and at poles of earth the temperature is about -20°C at north pole and -60°C at south pole. How can the animals survive at such low temperature?

Question 4

Ice is known as frozen water. Snow is also known as frozen water. What is the difference between two?

UNIT 5 : FIVE STATES OF MATTER

Joy was watching a program on his LED television. He was watching a channel about the exploration of earth and solar system. During the program he thought about the state of matter present in sun and other stars. He knew only about three states of matter solid, liquid and gas. But in stars and at the core of galaxy which matter is present? He also thought about the solar storms in which very long flare coming out of it. What is the state of such solar flares? He decided to know more about it, so he discussed it with his science teacher.

Question 1

On discussing with his teacher Joy came to know that there are five states of matter. These are:

1. -----
2. -----
3. -----
4. -----
5. -----

Question 2

How will you explain the fourth state of matter called plasma?

Question 3

Where can you find the fourth state of matter around you? Give three places.

Question 4

You can not find the fifth state of matter called Bose- Einstein Condensate around you. Why?

ANSWERS:

UNIT 1 : DIFFUSION

ANSWER 1.

(b) diffusion

ANSWER 2.

In the given diagram two types of molecules are shown. Orange is representing air molecules and red are molecules of smell coming from dumping ground. Initially the smell is near the garbage but with time the particles move and mix with the particles of air and the smell spreads in all around.

ANSWER 3

the perfume of car could not remove the bad smell of dumping ground because number of molecules of bad smell is more than the particles of perfume. Also the air conditioning of car cools the air and stops the spreading of perfume particles.

ANSWER 4

brownian motion.

Unit 2 : EVAPORATION

ANSWER 1

(c) the temperature of boiling is higher than the evaporation.

ANSWER 2

when vapor pressure is equal to atmospheric pressure then air dissolved in water heats up and moves upward in the form of bubbles.

ANSWER 3

it is the phenomena of evaporation because it evaporates at low temperature by absorbing the heat of palm.

ANSWER 4

diffusion, < evaporation, < vaporization

Unit 3 : CROSSWARD

ACROSS

- i. Plasma
- ii. Intermolecular
- iii. Latent
- iv. freezing

DOWN

1. melting
2. evaporation
3. solid
4. water

Unit 4 : SPECIAL CHARACTERISTICS OF WATER

ANSWER 1

(a) 0°C

ANSWER 2

while freezing some air is trapped between the molecules of water due to which density of water is reduced. Hence it floats on water.

ANSWER 3 the temperature of poles is very low but due to anomalous expansion of water the temperature of surface reduces but the temperature of deep water is always above zero. So the animals can survive.

ANSWER 4.

ice and snow both are frozen water but snow is made in the form of crystals so it shines while ice is not crystalline.

Unit 5 : FIVE STATES OF MATTER

ANSWER 1

1. solid
2. liquid
3. gas
4. plasma
5. Bose-Einstein condensate

ANSWER 2.

The fourth state of matter is plasma which is highly ionized gas with high energy free electrons.

ANSWER 3.

The fourth state of matter can be found in sun, LED television, and during lightening.

ANSWER 4.

The fifth state of matter which is known as Bose-Einstein condensate cannot be found around us because this can be created at extremely low temperature which is not possible around us.