

EXERCISES

3. Give reasons for the following observations.

a) Naphthalene balls disappear with time without leaving any solid.

⇒ Naphthalene goes from solid to directly gas because it undergoes easy sublimation.

b) We get the smell of perfume sitting several metres away.

⇒ Gas particles have space between them and move with high speed. Thus, we get the smell of perfume sitting several metres away.

4. Arrange the following substances in increasing order of forces of attraction between the particles - water, sugar, oxygen.

⇒ oxygen \gg water $>$ sugar
gas $>$ liquid $>$ solid

5. What is the physical state of water at :-

a) 25°C \rightarrow liquid state

b) 0°C \rightarrow water can exist as both solid & liquid. At this temperature after losing the heat equal to latent heat of fusion, the solid form of water, i.e. ice, starts changing into its liquid state, i.e., water.

c) 100°C \rightarrow Water can exist as both liquid & gas at this temperature after getting

The heat equal to latent heat of vaporisation
water equals to changing from its liquid
state to gaseous state i.e. water vapour.

1. The three states for the following

a) water at room temperature is a liquid
⇒ At room temperature water has no
shape but has a fixed volume that it
it occupies the shape of the container
in which it is held.

⇒ At room temperature water has ability
to flow.

b) ice when admission is a solid at
room temperature.

⇒ At room temperature water has ability
to flow. The solid has definite
volume & fixed shape.

⇒ Ice is rigid at room temperature as
solid is also rigid at r.t.

1. Why is ice at 273K more effective in
cooling than water at the same
temperature.

⇒ Ice at 273K is more effective in cooling
than water at the same temperature
as ice has less K.E. than

water at the same temperature.
⇒ And water possesses the additional
latent heat also.



Q. What produces more severe burns, boiling water or steam?

Ans Steam produces more severe burns than boiling water as steam has more K.E. than boiling water and it also possesses the additional latent heat.

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Q.2 How does water kept in an earthen pot become cool during summer?

=> There are some pores on the earthen pot. Due to which evaporation takes place and absorbs the heat energy from the surrounding water particles and then leaves the leftover water particles cool. This is the reason to why water kept in an earthen pot becomes cool during summer.

Q.4 Why are we able to sip hot tea or milk faster from a saucer rather than a cup?

=> We are able to sip hot tea or milk faster from a saucer as the rate of evaporation increases with increase in surface area, thus, making the liquid cool faster.

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Q.4. Liquids generally have lower density as compared to solids. But you must have observed that ice floats on water. Find

Q. Find out why?

⇒ Ice is a solid. It has large no. of empty spaces between its particles. These spaces are larger as compared to the spaces between the particles of water. Thus, the volume of ice is greater than the volume of water. Hence, the density of ice is less than water.

Q. Why is swimming in sea or ocean as compared to river?

⇒ The density of river water is less than ocean. The density of salt in ocean is more when compared to the concentration of salt in river water.