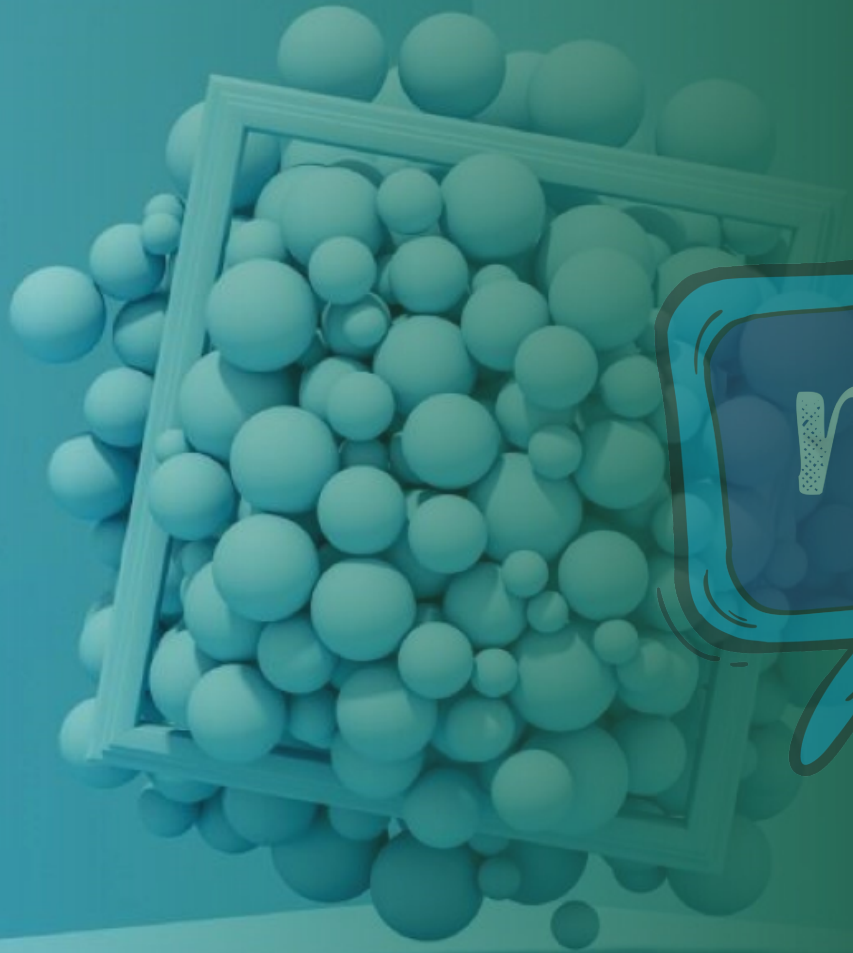
Under CSR Support by
ipca | Foundation

missiongyan
LET'S LEARN TOGETHER



Class–9

SCIENCE

Chapter – 1

Matter in Our Surroundings

Part – 6

Exercise

Deeksha Pahilajani

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



-273

1 Convert the following temperatures to the celsius scale.

(a) 293 K (b) 470 K

$C = 273\ K$

$293\ k$

Under CSR Support by ipca | Foundation

EXERCISE



1 Convert the following temperatures to the celsius scale.
(a) 293 K (b) 470 K

Answer :

(a) 293 K into °C

293 – 273 = 20°C

(b) 470 K into °C

470 – 273 = 197°C

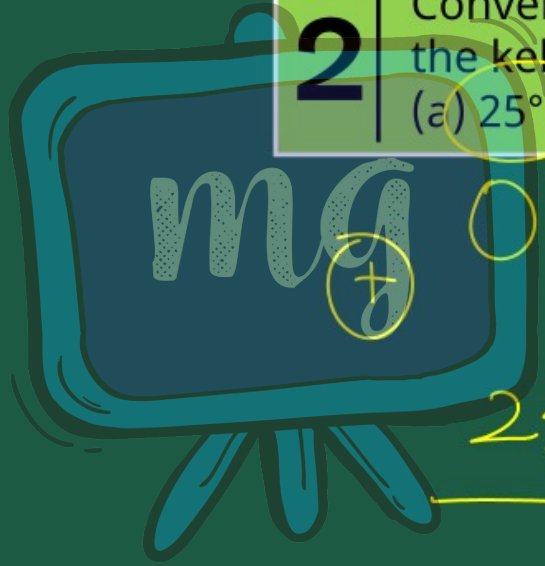
Under CSR Support by ipca | Foundation

EXERCISE



+273

2 Convert the following temperatures to the kelvin scale.
(a) 25°C (b) 373°C



0°C = 273 K

+25

25°C

Under CSR Support by ipca | Foundation

EXERCISE



2 Convert the following temperatures to the kelvin scale.
(a) 25°C (b) 373°C

Answer :

(a) 25°C into K

25 + 273 = 298 K

(b) 373°C into K

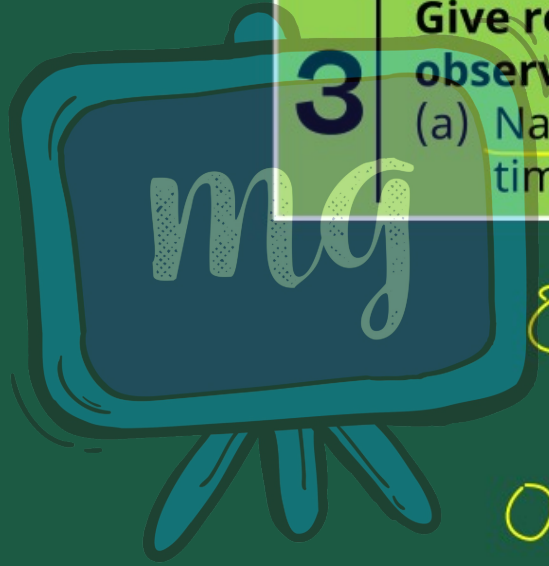
373 + 273 = 646 K

Under CSR Support by ipca Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER





3 **Give reason for the following observations.**

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

Vapour

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



3 **Give reason for the following observations.**

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

Answer :

Naphthalene balls disappear with time without leaving any solid, because naphthalene balls directly change into vapour state without leaving any solid.

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



3 (b) We can get the smell of perfume while sitting several metres away.



Diffusion

Air → Gas

Perfume → Gas

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



3 (b) We can get the smell of perfume while sitting several metres away.

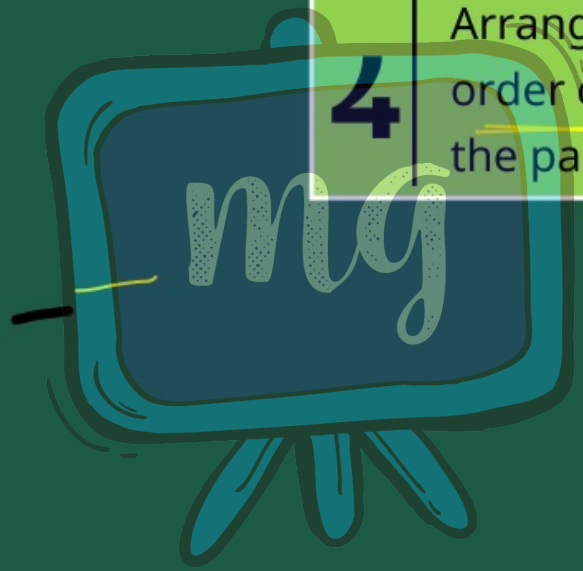
Answer :

Molecules of air move at a higher speed and have large intermolecular spaces. The particles of perfume diffuse with the air particles very easily. Hence, we are able to smell perfume sitting several metres away.

Under CSR Support by ipca | Foundation

EXERCISE





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

Liquid Solid Gaseous

(2) ✓ (1)

Under CSR Support by
ipca | Foundation

EXERCISE



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

Answer :

Oxygen (gas) < water (liquid) < sugar (solid)

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



5 What is the physical state of water at—
(a) 25°C (b) 0°C (c) 100°C ?

Liquid

Solid
Liquid

Liquid
Gas

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



5 What is the physical state of water at—
(a) 25°C (b) 0°C (c) 100°C ?

Answer :

(a) 25°C is liquid.

(b) 0°C is solid as well as liquid.

(c) 100°C is liquid as well as gas.

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



6 | Give two reasons to justify –
(a) Water at room temperature is a liquid.

mg characteristics

Under CSR Support by ipca | Foundation

EXERCISE



6 Give two reasons to justify –
(a) Water at room temperature is a liquid.

Answer :

Water persists as a liquid at room temperature because,

(i) A fixed volume is occupied by a fixed mass of water.

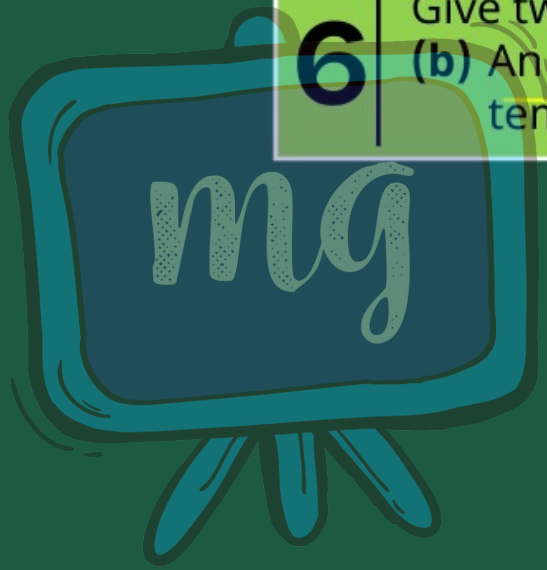
(ii) At room temperature, water does not have a fixed shape and flows to fit the container's shape.

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER





6 Give two reasons to justify –

(b) An iron almirah is a solid at room temperature.

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



Density = Mass / Volume

6 Give two reasons to justify –
(b) An iron almirah is a solid at room temperature.

Answer :



An iron almirah is a solid at room temperature because,

(i) An iron almirah is rigid and has a fixed shape and volume.

(ii) Metals have a relatively high density.

Under CSR Support by ipca | Foundation

EXERCISE

missiongyan LET'S LEARN TOGETHER



Imp:

7 Why is ice at 273 K more effective in cooling than water at the same temperature?

Ice
0°C / 273K
Latent heat
Water
0°C / 273K
More cooling
less cooling

Under CSR Support by ipca | Foundation

EXERCISE



7 Why is ice at 273 K more effective in cooling than water at the same temperature?

Answer :

Ice at 273 K will absorb heat energy or latent heat from the medium to overcome the forces to become water. Hence the cooling effect of ice is more than the water at same temperature because water does not absorb this extra heat from the medium.

missiongyan LET'S LEARN TOGETHER

Under CSR Support by ipca | Foundation

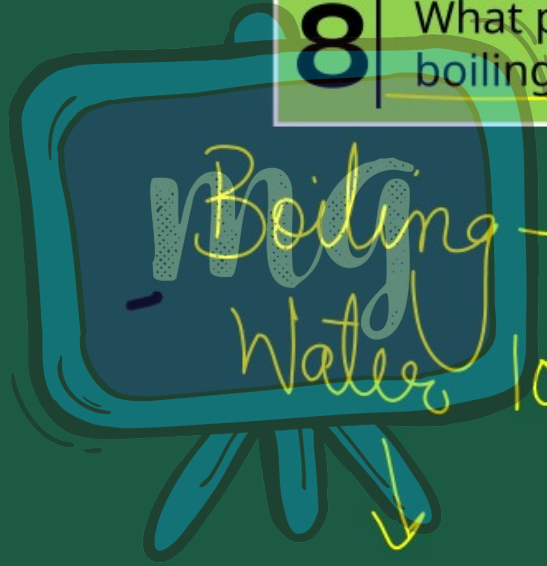
missiongyan LET'S LEARN TOGETHER

EXERCISE



Imp:

8 What produces more severe burns, boiling water or steam?







Under CSR Support by ipca | Foundation

EXERCISE



8 What produces more severe burns, boiling water or steam?

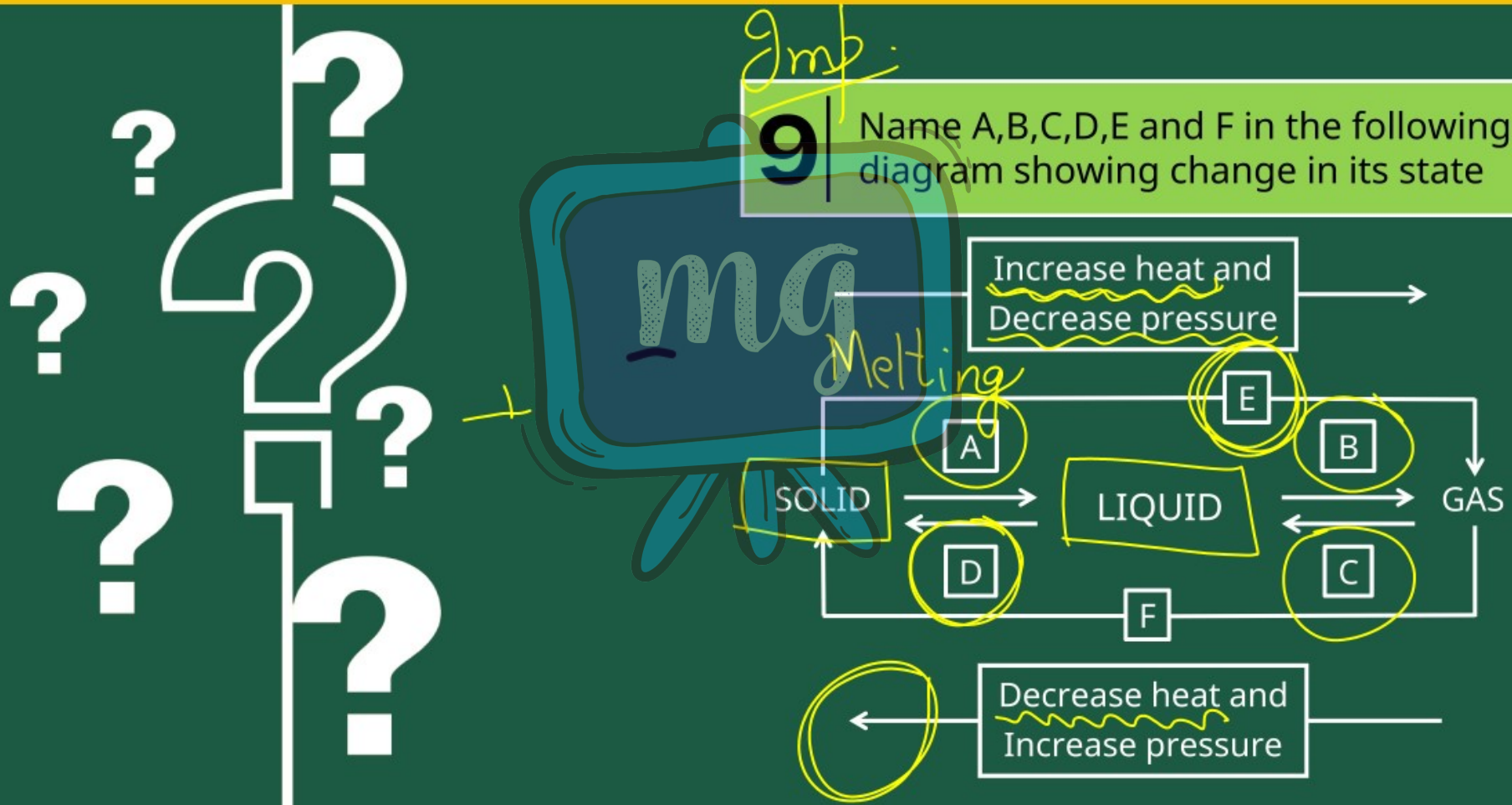
Answer :

Steam at 100°C will produce more severe burns as extra heat is hidden in it called latent heat whereas the boiling water does not have this hidden heat.

Under CSR Support by ipca | Foundation

EXERCISE

9 Name A,B,C,D,E and F in the following diagram showing change in its state



Under CSR Support by ipca | Foundation

EXERCISE



9 Name A,B,C,D,E and F in the following diagram showing change in its state

Answer :

A – Liquefication/melting/fusion

B – Vapourisation/evaporation

C – Condensation

D – Solidification

E – Sublimation

F – Deposition

missiongyan LET'S LEARN TOGETHER