

CBSE

## Matter in Our Surroundings

For Class - IX

*Super short Tricky Chemistry By  
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### NCERT Solution

**Q.1.** Convert the following temperatures to the Celsius scale. (a) 293 K (b) 470 K.

**Ans.** (a) 293 K into  $^{\circ}\text{C}$ , so,  $293 - 273 = 20^{\circ}\text{C}$  (b) 470 K into  $^{\circ}\text{C}$ , So  $470 - 273 = 197^{\circ}\text{C}$

**Q.2.** Convert the following temperatures to the Kelvin scale. (a)  $25^{\circ}\text{C}$  (b)  $373^{\circ}\text{C}$ .

**Ans.** (a)  $25^{\circ}\text{C}$  into K, Hence,  $25 + 273 = 298\text{ K}$  (b)  $373^{\circ}\text{C}$  into K, Hence,  $373 + 273 = 646\text{ K}$

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

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

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

**Ans.** (a) Naphthalene balls disappear with time without leaving any solid, because naphthalene balls sublime and directly changes into vapour state without leaving any solid.

(b) We can get the smell of perfume sitting several metres away because perfume contain volatile solvent and diffuse faster and can reach people sitting several metres away.

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

**Ans.** Oxygen, water, sugar.

**Q.5.** What is the physical state of water at (a)  $25^{\circ}\text{C}$  (b)  $0^{\circ}\text{C}$  (c)  $100^{\circ}\text{C}$

**Ans.** (a)  $25^{\circ}\text{C}$  is liquid (b)  $0^{\circ}\text{C}$  is solid or liquid (c)  $100^{\circ}\text{C}$  is liquid and gas

**Q.6.** Give two reasons to justify

(a) water at room temperature is a liquid.

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

**Ans.** (a) Water at room temperature is a liquid because its freezing point is  $0^{\circ}\text{C}$  and boiling point is  $100^{\circ}\text{C}$ .

(b) An iron almirah is a solid at room temp. because melting point of iron is higher than room temp.

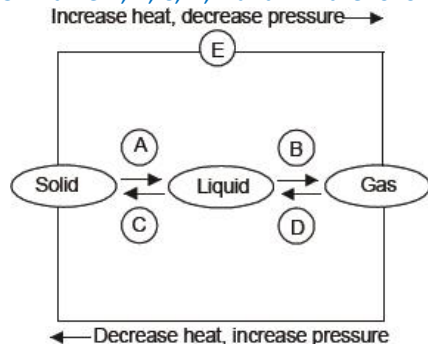
**Q.7.** Why is ice at 273 K more effective in cooling than water at the same temperature?

**Ans.** Ice at 273 K will absorb heat energy or latent heat from the medium to overcome the fusion 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.

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

**Ans.** Steam at  $100^{\circ}\text{C}$  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.

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



**Ans.** A  $\rightarrow$  Liquefaction/melting/fusion  
 B  $\rightarrow$  Vaporisation/evaporation  
 C  $\rightarrow$  Condensation  
 D  $\rightarrow$  Solidification  
 E  $\rightarrow$  Sublimation  
 F  $\rightarrow$  Sublimation

### Assignment for Home Practice

- To which physical state of matter do the following statements apply?  
 (i) Incompressible, no fixed shape (ii) Compressible, no definite volume
- Name the state of matter in which:  
 (i) Layers of particles can slip and slide over one another easily.  
 (ii) Particles just move around randomly because of very weak force of attraction.
- Define density and give its SI unit.
- Why do solids have a regular geometrical shape?
- Substance 'A' has high compressibility and can be easily liquefied. It can take up the shape of any container. Predict the nature of the substance. Enlist four properties of this state of matter.
- Explain interconversion of three states of matter with the help of flow chart. Name the process of each interconversion.
- Why do the doctors advise to put strips of wet cloth on the forehead of a person having high fever?



आपका परिश्रम + हमारा मार्गदर्शन = निश्चित सफलता

