NCERT ANNEXURE

Below you can go through the subjective type questions and solutions from NCERT Annexure.

1. Give reasons for the following observations. The smell of hot sizzling food reaches you several meters away, but to get the smell from the cold food you have to go close?

Ans. The particles of matter possess kinetic energy and thus are constantly moving. At low temperatures, the kinetic energy is low and hence the particles diffuse slowly. But as the temperature rises, the kinetic energy increases accordingly and hence the particles diffuse at a faster rate. Now since the particles of hot vapours coming out of hot sizzling food diffuse in the air at a faster rate, therefore, they easily reach us even when we are several meters away.

2. Give reasons:

(a) A gas fills completely the vessel in which it is kept.

(b) A gas exerts pressure on the walls of the container.

(c) A wooden table should be called a solid.

(d) We can easily move our hand in air but to do the same through a solid block of wood, we need a karate expert.

Ans. **(a)** A gas fills its container completely because due to high kinetic energy and negligible forces of attraction, the molecules of a gas move freely with high speed in all directions.

(b) The particles of a gas have the negligible force of attraction and high kinetic energy, due to which, particles in a gas move randomly in all directions. Due to random movement and high kinetic energy, the particles hit each other and also the walls of the container. The force exerted by gas per unit area on the walls of the container is the pressure. Therefore, a gas exerts pressure on the walls of the container.

(c) A wooden table should be called a solid because it is rigid, has a fixed shape and fixed volume & it is incompressible.

(d) We can easily move our hand in the air but to do the same through a solid block of wood we need karate expert because air particles have a very low force of attraction & large interparticle spaces, whereas solid block has a much higher force of attraction between the particles & minimum interparticle space.

3. For any substance, why does the temperature remain constant during the change of state?

Ans. During the change of state of a substance at its melting point or the boiling point, the temperature remains constant because the heat energy supplied to the substance is used up in overcoming the inter-particle forces of attraction without increasing its kinetic energy. As a result, the thermometer does not show any rise in temperature till the entire substance undergoes a change of state.

4. How does the water kept in an earthen pot (Matka) become cool during summer?

Ans. The earthen pot (Matka) has a large number of extremely small pores in it. Some of the water continuously seeps out through these pores to the outside of the pot and evaporates continuously. During evaporation, it takes the latent heat required for vaporization from its surroundings & the water present inside the pot. In this way, the water inside the pot loses heat and becomes cool.

5. What type of clothes should we wear in summer?

Ans. In summer, we perspire more, therefore, to keep our body cool, we must wear cotton clothes. cotton clothes are good absorber of water, they absorb the sweat quickly and expose them to the atmosphere for easy evaporation, and sweat absorbs latent heat from our skin, evaporates & makes our body cool.

NCERT EXEMPLAR

Here are the Objective Type questions and their solutions from NCERT Exemplar.

1. Which one of the following sets of phenomena would increase on raising the temperature?

(A) Diffusion, evaporation, compression of gases
(B) Evaporation, compression of gases, solubility
(C) Evaporation, diffusion, expansion of gases
(D) Evaporation, solubility, diffusion, compression of gases

Ans. (C)

2. Seema visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing her experience with friends she got confused. Help her to identify the correct set of conditions.

(A) Low temperature, low pressure
(B) High temperature, low pressure
(C) Low temperature, high pressure
(D) High temperature, high pressure

Ans. (C)

3. The property to flow is unique to fluids. Which one of the following statements is correct?

(A) Only gases behave like fluids
(B) Gases and solids behave like fluids
(C) Gases and liquids behave like fluids
(D) Only liquids are fluids

Ans. (C)

4. During summer, water kept in an earthen pot becomes cool because of the phenomenon of:

(A) diffusion **(B)** transpiration **(C)** osmosis **(D)** evaporation

Ans. (D)

5. A few substances are arranged in the increasing order of 'forces of attraction' between their particles. Which one of the following represents a correct arrangement?

(A) Water, air, wind
(B) Air, sugar, oil
(C) Oxygen, water, sugar
(D) Salt, juice, air

Ans. (C)