

## CLASS-IX (CHEMISTRY)

### CH-1: MATTER IN OUR SURROUNDINGS

#### WORKSHEET-3 (ANSWERS)

#### 1. Fill in the blanks:

- (a) Kinetic energy of the particles increases on heating.
- (b) Orderedness of particles increase on cooling.
- (c) Temperature remains constant during change of states.
- (d) Melting point and freezing point is same for any substance.
- (e) High melting point indicates high attractive force between the solid particles.

---

#### 2. State true or false and if false, correct the statement:

- (a) Both melting and condensation process can be termed as liquefaction. **(True)**
- (b) On cooling, the forces of attraction between the particles break down. **(False)**  
**On heating, the force of attraction between the particles breaks down.**
- (c) Conversion of gas into its solid state is known as deposition. **(True)**
- (d) Dry ice can exist below one atmospheric pressure. **(False)**  
**Dry ice cannot exist below one atmospheric pressure.**

(e) The change of liquid into its solid state is known as solidification.

**(True)**

---

**3. Give reason:**

(a) Ammonium chloride is a sublime substance.

Ammonium chloride is a sublime substance because on heating it directly converts from solid to gaseous state without converting into the intermediate liquid state.

(b) Water has high boiling point than alcohol.

Particles of water are held together by a strong intermolecular force of attraction than that in alcohol. Therefore, greater amount of energy is required to break the force of attraction between the water particles in order to boil it. Hence, water has high B.P than alcohol.

(c) Water is liquid at room temperature.

Water at room temperature is a liquid because its freezing point is  $0^{\circ}\text{C}$  and boiling point is  $100^{\circ}\text{C}$ . Also at room temperature it has no fixed shape but has fixed volume. It is slightly compressible and can flow.

---

**4. Differentiate between:**

(a) Melting and melting point

<b>Melting</b>	<b>Melting point</b>
It is a process in which a solid changes to its liquid state by absorbing heat.	It is the constant temperature at which a solid changes to its liquid state at atmospheric pressure.

(b) Boiling and boiling point

<b>Boiling</b>	<b>Boiling point</b>
It is a process in which a liquid changes to its gaseous state by absorbing heat.	It is the constant temperature at which a liquid changes to its gaseous state at atmospheric pressure.

5. Mention two ways to liquefy atmospheric gases.

By increasing pressure and decreasing temperature, atmospheric gases can be liquefied.

**CLASS-IX (CHEMISTRY)**

**CH-1: MATTER IN OUR SURROUNDINGS**

**WORKSHEET-4 (ANSWERS)**

**1. Arrange the following in decreasing order of their energy content:**

ICE (0°C), WATER (100°C), STEAM (100°C), WATER (0°C)

In decreasing order of their energy content:

STEAM (100°C) > WATER (100°C) > WATER (0°C) > ICE (0°C)

**2. How 'latent heat' helps in change of state?**

Latent heat helps to overcome the force of attraction between the particles in order to bring about a change in state of a matter.

### 3. Give reason:

(a) Ice at  $0^{\circ}\text{C}$  appears colder than water at same temperature.

An ice at  $0^{\circ}\text{C}$  appears colder than water at the same temperature because water at  $0^{\circ}\text{C}$  contains more heat as latent heat of fusion but ice does not at  $0^{\circ}\text{C}$ .

---

(b) Temperature is directly proportional to kinetic energy of the particles.

When we heat any state of matter, the K.E of the particles increases and at the same time temperature also increases. Hence, temperature is directly proportional to the K.E.

---

4. Write three applications of latent heat in our real life situation.

Three applications of latent heat in our real life situations:

- (a) Food cooks faster in a closed pan compared to that in an open pan.
  - (b) Extinguishing wood, paper, plastic, textile fire by using boiling water.
  - (c) The temperature becomes very low after a hail storm.
-