Cosmo School

**Physics** | **Worksheet 3 : 12/10/2020** | **Class - IX**

# CHAPTER 6 : EFFECT OF HEAT ON MATTER

## Instructions:

- ✓ Read the chapter in your book - quickly and thoroughly, preferably more than once.
- ✓ Watch the uploaded video classes of this chapter from school's website/You Tube channel. For becoming more clear about the basics, watch more than once, if needed.
- ✓ Contact me in case of any difficulty in understanding.

(Questions given in this worksheet are important questions for all exams)

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## Cognitive Questions (Mark - 1)

### 1. What is real expansion?

Ans.: Real expansion: If it had been possible to heat a liquid without keeping it in a vessel, the real expansion of the liquid that would be obtained is called real expansion of the liquid.

### 2. What is specific heat?

Ans.: The amount of heat required to increase the temperature of a body of unit mass to one unit temperature is called the specific heat of the material of that body. (The amount of heat required to increase the temperature of a body of mass 1kg by 1K is called the specific heat.)

### 3. What is freezing point?

Ans.: The temperature at which a liquid turns into a solid when cooled is called freezing point.

### 4. What is melting?

Ans.: Melting is the process by which a substance changes from the solid phase to the liquid phase.

### 5. Determine one Kelvin (1K).

Ans.: The temperature of the triple point of water is considered as 273K. $^{1}/_{273}$th part of the temperature of the triple point of water is called 1K.

## Analytical Questions (Marks - 2)

### 1. Explain the effect of pressure on the melting point.

Ans.: The melting point of matter changes depending on the variation of the pressure on it. The changes of melting point due to pressure can occur in two ways:

i. The matters that lose volume while transforming from solid to liquid (for example ice), their melting point decreases when pressure is increased or they melt in lower temperature.

ii. The matters that gain volume while transforming from solid to liquid (for example wax), their melting point increases when pressure is increased or they melt in higher temperature.

### 2. Why evaporation produces cooling? Explain.

Ans.: At the time of evaporation, water absorbs the latent heat of vaporization from the adjacent area. As a result, the adjacent area of water loses heat and becomes cold. That is why cooling occurs along with evaporation.

### 3. Why does a fan turn on to dry a wet floor? Explain

Ans.: We know that water is always being vaporized. This vaporization depends on the surrounding water vapors. If the amount of water vapors is excessive, rate of vaporization is slow. As the sweats of our body are vaporized, amount of water vapor remains high around us. But the fan removes the water vapors and so the rate of vaporization increases. So, fan helps to dry wet floor.

**4. Ice at 0°C and water at the same temperature - which one is more cold? Explain**

Ans.: Ice absorbs latent heat as well as the heat energy in order to attain room temperature. Whereas water at 0°C absorbs only heat energy to attain room temperature. Thus, water absorbs less heat energy compared to ice. That is why ice feels colder.

**5. If a big container and a small container have same height and to keep same amount of water in the two containers, then the evaporation of water will be occurred of which container faster and why?**

Ans.: Evaporation increases as the area of the exposed surface of the liquid increases. So, the bigger container will evaporate faster than the smaller container.