



Physics

Worksheet 2 : 08/10/2020

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)

Analytical Questions (Marks - 2)**1. What does co-efficient of linear expansion of steel $11 \times 10^{-6}K^{-1}$ mean?**

Ans.: Steel's co-efficient of linear expansion being $11 \times 10^{-6}K^{-1}$ means that, if the temperature of a 1m long steel rod is increased by 1K, its length increases by $11 \times 10^{-6}m$.

2. Why is space kept between the connection point of two rail lines?

Ans.: We know friction produces heat and all the substances - solid, liquid and gas expand due to the application of heat.

So, the rails expand due to heat of the sun or due to heat produced by friction between the wheels and rails while the trains run. For this expansion sufficient

space is kept between two rails. If gaps between the rails are not kept, the rail will bend due to its expansion.

3. Why does the application of heat increase the length of the solid substances?

Ans.: Almost all the substances expand due to application of heat. When a body is heated the heat energy and as such the kinetic energy of each molecule of the body increases. When the molecules of a solid body vibrate at a random fashion they approach further towards the exterior than towards the interior. As such the average equilibrium position of each molecules gets displaced towards the exterior and the body expands.