CHAPTER – 11
LIGHT, SHADOWS AND REFLECTIONS

- **Light:** Light is the natural agent that stimulates sight and makes things visible.
- Light is classified into two:
  - (i)   **Emission of light:** Classifying objects on the basis of emission of light.
    - (a) **Luminous Objects:** Objects that emit their own light. Example: sun, electric torch, firefly, etc.
    - (b) **Non-luminous Objects:** Objects that do not emit their own light but are visible due to light falling on them. Example: moon, chair, table, etc.
      - **Transparent:** Objects or materials through which light can pass totally. Example: glass, water, air, etc.
      - **Translucent:** Objects that allow light to pass through them partially. Example: butter paper, tissue paper, etc.
      - **Opaque:** Objects that do not allow light to pass through them. Example: book, brick, etc.

        Shadow: Region without light that forms behing an object kept in the path of light. Opaque object cast a dark shadow. Translucent objects produce a weak shadow. Transparent objects do not cast a shadow at all.

        Types of shadow:

        Due to smaller light source: Only one dark shadow is formed and this is known as **umbra.**

        Due to larger light source: Two shadows are formed-a dark one in the centre and a light one on the outside. Dark shadow is called **umbra** and the faint or lighter shadow is called **penumbra**.

        Eclipse: A shadow formed in space that makes the sun or the moon invisible for some time.

        Solar eclipse: The moon comes between the sun and the earth, so that the earth (in the shadow) darkens during the day.

Lunar eclipse: The moon and the sun are in a straight line such that the earth is in the between the sun and the moon, the shadow of the earth falls on moon and the moon cannot be seen.

(ii) **Reflection of light:** The process of sending back the light rays whichafall on the surface of an object. Silver metal is one of the best reflector of light.