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▸ Light shadows and reflection

Shadows

An opaque object blocks the light falling on it. This creates an area of darkness on the side of the object away from the source of light. A translucent object also creates a faint area of darkness. An area of darkness formed by an opaque object obstructing light is called a shadow. The following three things are required for a shadow to form (Fig. 13.4):

- a source of light
- an opaque object
- a screen or surface behind the object.

A shadow will not form if any of these is absent. This explains why we cannot see a shadow in the dark. It is only when light rays are obstructed by an opaque object that we get a shadow of the object.



Fig. 13.4 Formation of shadow

Characteristics of a Shadow:

A shadow has the following three characteristics:

- It is always black, regardless of the colour of the object used to make the shadow
- It only shows the shape or outline of the object and not the details.
- The size of a shadow varies depending on the distance between the object and the source of light, and the distance between the object and the screen.