

Chapter 11: Light, Shadows and Reflections

Multiple Choice Questions

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1. (b) 2. (a)

Multiple Choice Questions

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1. (c) 2. (a)

EXERCISE

A. Tick (✓) the correct options.

1. (b) 2. (d) 3. (a) 4. (a) 5. (b) 6. (b)

B. Match the following.

1. (b) 2. (d) 3. (a) 4. (c)

C. Fill in the blanks.

1. natural 2. shadow 3. transparent 4. dark outline
5. screen

D. Very Short Answer Questions.

1. The three luminous objects are sun, stars and firefly.
2. No, we will not see an image in the mirror.
3. Transparent objects: glass sheet
Translucent objects: cloth, tracing paper, tissue paper
Opaque objects: wooden sheet
4. A pinhole camera forms an image.
5. The colour of a shadow is always dark (black).

E. Short Answer Questions.

1. The materials that allow only some of the light to pass through them are called translucent materials. We cannot see clearly through translucent materials. Grounded glass, butter paper and tissue paper are examples of translucent materials.
2. Following conditions are necessary for the formation of a shadow:
 - (i) a source of light
 - (ii) an opaque object to obstruct the path of light
 - (iii) an opaque screen behind the object
3. (a) The size of a shadow on the screen decreases when the distance between source of light and the object increases.
(b) The size of a shadow on the screen decreases when the distance between the object and the screen decreases.
4. (a) We can see through a glass because it is a transparent material.
(b) We should also be transparent in all our actions in our daily life. We should never hide anything from the people around us.
5. The property of light by which it travels in straight lines is called rectilinear propagation of light. It can be represented by a ray or a beam.
6. The left-right reversal of an 'object' and its 'mirror image' is called lateral inversion.
7. The process of sending back the light rays that fall on the surface of an object is called reflection of light. Shiny, polished surfaces like mirrors reflect light better than other surfaces.

F. Long Answer Questions.

1. (a) When an object is placed in front of a source of light, it produces a shade behind it. The shade cast by an object is called its shadow. Shadows are formed when light is stopped by an opaque object.
(b) The characteristics of a shadow are—
 - (i) A shadow is always dark regardless of the colour of the object or the colour of the light used to make the shadow.
 - (ii) A shadow only shows the dark outline of an object and not the details of the object.
 - (iii) A shadow is formed in the direction opposite to the source of light.
 - (iv) The size of a shadow varies depending on the distance between the object and the screen and the distance between the object and the source of light.
 - (v) The shape and size of a shadow also varies with the position of the source of light.

2.

S. No.	Parameters	Image	Shadow
(i)	Colour	An image is of the same colour as the object.	The shadow is always dark, regardless of the colour of the object.
(ii)	Details	An image gives all the details of the object.	The shadow shows no details of the object. It tells only the shape of the object.
(iii)	Lateral inversion	An image undergoes lateral inversion.	The shadow does not undergo lateral inversion.
(iv)	Formation	An image is formed, when light from the object (after reflection) reaches our eyes.	The shadow is formed, when the path of light is obstructed by an opaque object.
(v)	Size	Size of an image is the same as the object.	The size of the shadow depends on the distance between the object and the source of light and distance between the object and the screen.