

Board – CBSE

Class – 6th

Topic – Light Shadows and Reflections

1. Define luminous body.

Ans: The objects which emit light of their own are called luminous bodies, e.g., the sun, the stars, etc.

2. What are luminous and non-luminous objects?

Ans: Luminous objects: Objects that give out or emit light of their own, e.g., sun, torch, light, bulbs, etc.

Non-luminous objects: Objects that do not give out light of their own, e.g., the moon, chair, shoe, pen, etc.

3. Classify the following into transparent, opaque and translucent objects: Wax, spectacles, a heap of salt, a stone, dense smoke, wood, skin, balloon, rubber, the membrane of a tabla, blood and milk.

Ans: Transparent objects are Spectacles.

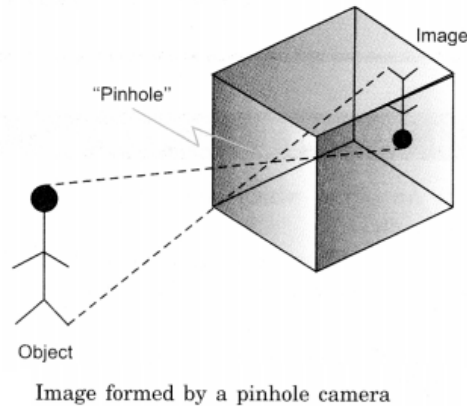
Opaque objects are stone, wood, a heap of salt, dense smoke, and a membrane of tabla. Translucent objects are blood, milk, wax, skin, balloon, rubber.

4. List four natural sources of light.

Ans: 1. Sun 2. Stars 3. Fire 4. Jugnu (Firefly).

5. Whether a shadow is two-dimensional or three-dimensional?

Ans: Shadow is not just the two-dimensional outline that you see on the ground. All the space behind the opaque object up to some distance behind it seems to be filled with the shadow



6. What is a shadow? How is it formed? How does the colour of an opaque object affect the colour of the shadow?

Ans: A shadow is a dark outline or image cast by an opaque object that blocks light coming from a source of light. It is formed when light hits the opaque object, which does not let the light pass through. Everywhere else around the opaque object, the light continues in a straight path until it bounces off the ground or wall behind the object. The wall or ground behind the opaque object is the screen. On this screen is a dark patch, or shadow, with the same outline as the object surrounded by light. The colour of the opaque object does not affect the colour of the shadow that is formed.

7. What is the difference between image and shadow?

Ans:

Image	Shadow
1. Image is formed due to reflection or refraction of light	1. Shadow is formed when light falls on the opaque body.
2. Image is seen when light coming from the object after reflection or refraction enters the observer's eye.	2. No light enters the eye from the shadow of the object.

3. Image gives more information, such as colour, structure, etc., about the object

3. Shadow does not provide any detail about the object; it gives an idea of its shape.

8. Why is the image formed in a pinhole camera inverted?

Ans: In a pinhole camera, an image formed is inverted because the object is between the radius of curvature and focus.

9. Why is silvered glass used as a mirror?

Ans: The silvered glass has a smooth surface, and the smoothness helps form a clear image. Silvering makes it shiny, and the shiny surface helps in reducing the absorption

10. Why is the moon not considered a luminous body?

Ans: Moon is a non-luminous body because it shines by reflecting the sunlight falling On it.

11. Fill in the blanks with appropriate words:

- I. An object or material could be opaque, transparent, translucent or
- II. This is a on which the shadow is formed.
- III. A is a dark outline of an opaque object that blocks light coming from a source.
- IV. An image formed by a pinhole camera is
- V. An image formed by a plane mirror is
- VI. In a plane mirror, our left hand looks like our right hand. This phenomenon is called
- VII. objects cast no shadow.

VIII. (viii) Opaque objects cast shadows in morning and evening while shadows at noon.

IX. Light travels in a

Ans:

- I. luminous
- II. screen
- III. shadow
- IV. upside down
- V. erect
- VI. lateral inversion
- VII. Transparent
- VIII. big, small
- IX. straight line

12. State whether the statements given Below are True or False:

- I. A torch bulb is a luminous object.
- II. Light travels in a straight line.
- III. The image formed by a plane mirror is inverted.
- IV. Light gets reflected when it strikes a shiny surface.
- V. Transparent substances reflect all the light falling on them.
- VI. All the shining bodies in the sky have their light.
- VII. Jugnu (Firefly) is a living luminous body.
- VIII. When the screen is far away from the objects, the shadow will have no penumbra.
- IX. A reflected image gives us more information about the object than a shadow.
- X. In a mirror, if A can see B, B also can see A.
- XI. Objects around us seem to have different ways in which they interact with light.

Ans:

- I. True

- II. True
- III. False
- IV. True
- V. False
- VI. False
- VII. True
- VIII. False
- IX. True
- X. True
- XI. True