LITTERA PUBLIC SCHOOL

CLASS 6 CHAPTER 11 SCIENCE

LIGHT, SHADOWS AND REFLECTION

Very short answer type questions?

1. **What are luminous objects? Give two examples.**

Ans. Objects that give out light of its own are called luminous objects. Example – the sun, a burning candle, a firefly.

2. **Name any two man-made luminous bodies.**

Ans. Two man-made luminous objects are – a burning candle, a torch.

3. **Name three opaque materials.**

Ans. Three opaque materials are wall, rocks and metals.

4. **Name two transparent objects.**

Ans. To transparent objects are glass, clear water.

5. What is light?

Ans. Light is a form of invisible energy that gives us the sensation of sight.

6. What is a shadow?

Ans. Shadow is an area of darkness formed by an opaque object when it blocks a path of light.

7. Define reflection?

Ans. The bouncing back of light rays from the surface of an object is called reflection.

Short answer type questions

1. What is lateral inversion?

Ans. When the image of an object is erect but is inverted in the lateral side, it is called lateral inversion. Example: Image formed by plane mirrors are laterally inverted, i.e., the left side comes to the right and the right comes to the left.

2. **State any one observation from everyday life which shows that light travels in straight line.**

Ans. Light emerging from a torch or head light of a car always travels in straight line.

3. **Distinguish between a solar and a lunar eclipse.**

Ans. Solar eclipses occur when the Moon passes between Earth and the Sun, leaving a moving region of shadow on Earth's surface. Lunar eclipses occur when Earth passes between the Sun and the Moon, casting a shadow on the Moon.

4. **Which of the following are the sources of light?**
   Book, tube light, moon, sun, star, planets, meteor, table, chair, electric, bulb.

Ans. Tube light, sun, star, electric bulb.

5. Distinguish between natural source of light and artificial source of light.

Ans. Natural light comes from sources that are naturally occurring such as the light from the sun and stars. Artificial light is emitted by man-made devices that would not occur naturally in nature such as light bulbs, televisions or phone screens.

6. What are the characteristics of a shadow?

Ans. Characteristics of a shadow are:-

- It is always erect (same side up as the object).
- Irrespective of the colour of the object, the shadow is always black.
- It can be smaller, equal or bigger than the object.
- Shadow is formed on the opposite side of source of light.
- Shadow is real because it can be formed on screen.

7. What is the difference between an image and a shadow?

Ans.

Image		Shadow
1. The formation of image takes place when the light rays are reflected by an object.		The formation of shadow takes place when the light falls on an opaque object.
2. We are able to see images when light refraction enters our eyes.		In the case of shadow no light enters our eyes.
3. Image contains colour, structure etc. of the object.		Shadow does not give any information about the object as it is colourless.
4.The size of the image is the same as the size of the object.		Shadow is not an optical representation of any object as it is cast by an object intercepting light .
5.Image is the optical representation of any object.		It is mandatory to have a screen to form a shadow.

8. What are the things required to observe a shadow?

Ans. Things required to observe a shadow are:- an opaque object, source of light, a screen.

Long answer questions

1. **Distinguish between a parallel a convergent under divergent beam of light. Illustrate with examples.**

Ans. Parallel beam – when the rays of light travel parallel to each other , then the collection of such rays is called parallel beam.

2) Divergent beam – when the rays of light start from a point and travel in various direction ,then the collection of such rays are called divergent beam .

3)Convergent beam – when the rays of light coming from different direction meet at a point ,then the collection of such rays is called convergent beam .

2. **Describe an experiment to demonstrate rectilinear propagation of light.**

Ans. Activity 2 (Page no. 117)

3. **What is meant by (a) luminous objects and (b) non-luminous objects? Name**

any three luminous objects and three non-luminous objects. State whether moon is a luminous object or a non-luminous object.

Ans. (a) Objects that give out light of its own are called luminous objects. Example – the sun, a burning candle, a firefly.

(b) Objects that do not emit it's own light are called non - luminous objects. Example – Pencil, clothes, paper etc.

Moon is non – luminous object it does not have its own light, it reflects the sunlight.