

LIGHT SHADOWS AND REFLECTION

- C1. Light travels from the sun to the earth in $8\frac{1}{4}$ minutes. So we see the sun rising $8\frac{1}{4}$ minutes after it has actually risen.
2. Sun, firefly are natural sources of light. Candle, electric bulb are artificial sources of light.
 3. When light falls on a non-luminous object, it gets reflected in different directions. When this reflected light reaches our eyes, we can see the object.
 4. The property of light of travelling in straight lines is called rectilinear propagation of light.
 5. Translucent objects are those objects that allow some light to pass through but not enough to enable us to see clearly through it.

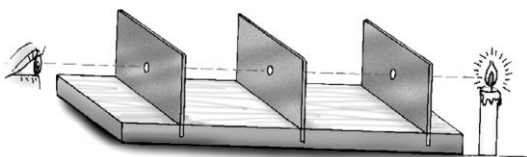
Examples are butter paper and ground glass.

6. A shadow is formed when light from a source is obstructed by an opaque object.
7. During a solar eclipse, the dark side of the moon faces the earth. Therefore, a solar eclipse always occurs on a new moon day.
8. We can see an image of an object in a plane mirror when light from the object reaches our eyes after reflection from the plane mirror.

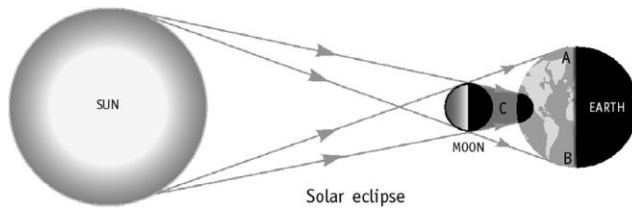
D1. We depend on light energy for food, oxygen and fuel because green plants prepare food using the energy of light. Similarly the energy of all fossil fuels, such as petroleum, coal and natural gas has also been derived from the light energy of the sun.

2. Take three rectangular pieces of cardboard. Make holes in them at exactly the same level. Make them stand straight on a table using wooden supports. Keep a burning candle on the table, with its flame at the level of the holes. Now adjust the cardboards so that we can see the candle flame through the holes.

We will find that the flame can only be seen when the holes are exactly in a straight line. This proves that light travels in straight lines.



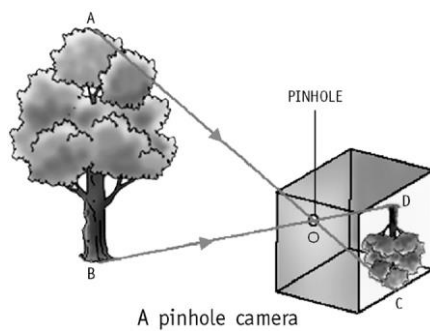
3. (i) A shadow is black in colour.
 (ii) It is similar in shape to the object.
 (iii) It does not show any details of the object.
4. a. Region C
 b. Region between A and B



5. The differences between an image and a shadow are:
 - (i) A shadow is black while an image is of the same colour as the object.
 - (ii) A shadow is similar in shape to the object, but shows no other details about the object. An image is not only of the same shape as the object but has all the details that the object has.



6.



7.

