



# PHYSICS

## BOOKS - ICSE

### LIGHT

#### Questions

1. An artificial source of light



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2. Give two examples of Luminous objects



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3. Give two examples of Non-luminous objects



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4. Give two examples of Transparent materials



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5. Give two examples of Translucent materials



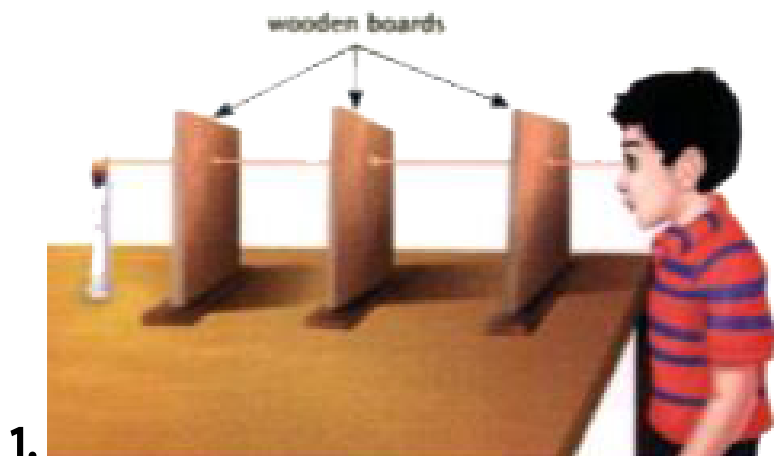
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6. Give two examples of Opaque materials



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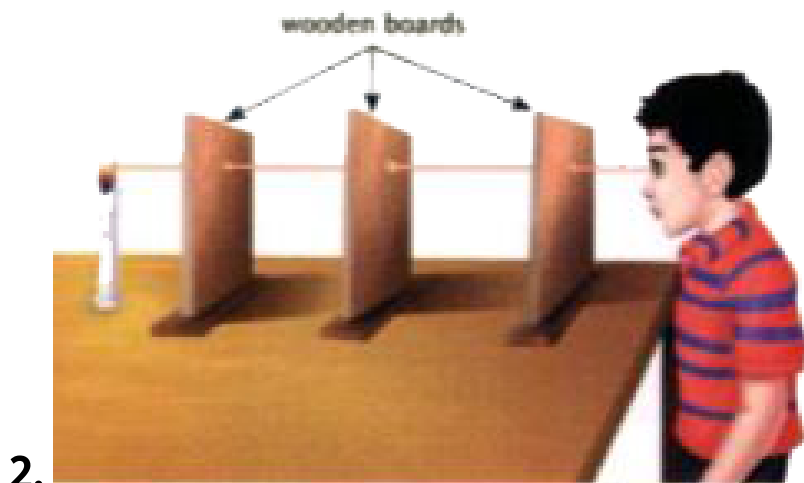
**Questions Observe The Figure And Answer The Questions**



Which property of light can be proved using the set-up shown alongside?



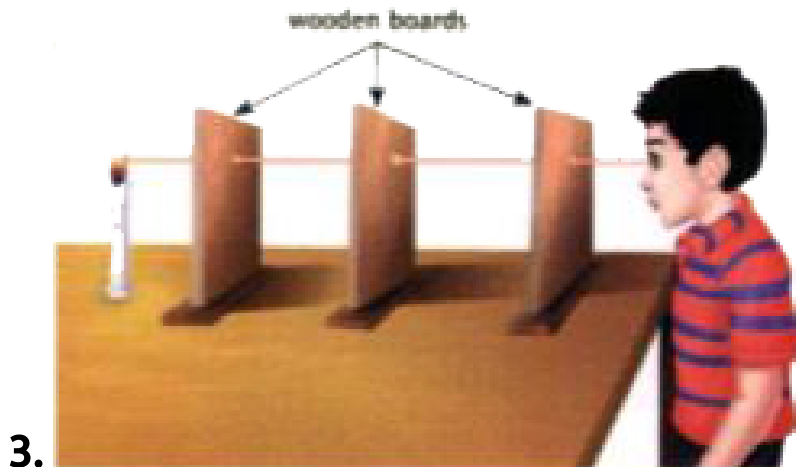
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What happens if one of the wooden boards shown in the figure is moved so that the holes are no longer in a straight line?



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What can be used to represent the light?



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**Questions Write T For True And F For False  
Correct The False Statements**

1. Shadows are always formed on the opposite side of the source of light.



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2. The darkest part of a shadow where no light falls at all is called the penumbra region.



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3. A pinhole camera works on the principle of the rectilinear propagation of light.



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## Questions Name The Following

1. The type of eclipse takes place when the moon crosses the Earth's penumbra



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2. The type of eclipse takes place when the moon is in the Earth's umbra region



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3. The type of eclipse takes place when the view of the sun is partially blocked by the moon



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## Exercises Section I Give An Examples Of The Following

1. A natural source of light



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2. An artificial source of light



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3. A luminous object



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**4. A bioluminescent organism**



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**5. An illuminated object**



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**Exercises Section I Choose The Correct Option**

1. Give two examples of Translucent materials

A. clear water

B. air

C. butter paper

D. book

**Answer:**



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2. The rays from the sun are considered to be

A. convergent

B. parallel

C. divergent

D. all of these

**Answer:**



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3. The image formed by a pinhole camera is

A. inverted

B. upright

C. horizontal

D. can be upright or inverted

**Answer:**



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4. Lunar eclipse occurs once in ..... months .

A. three

B. nine

C. six

D. four

**Answer:**



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## Exercises Section I Circle The Odd One One Has Been Done For You

1. Circle the one that is not a natural source of light: Bulb, Sun, Lightning, Stars



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2. Rock, Moon, Planet, Sun



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3. Clear water, Fog, Clear plastic, Air



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4. Partial, Annular, Total, Penumbral



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**Exercises Section I Choose The Correct Option To  
Fill In The Blank**

1. Light travels in .....  
(curved/straight) lines.



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2. A collection of rays of light is called a  
..... (ray/beam) of light.



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3. A lamp emits a .....

(convergent/divergent) beam of light.



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4. The speed of light in vacuum is

$$3 \times 10^8 \text{ ms}^{-1}$$



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**Exercises Section II Give Reasons For The Following**

1. A luminous object



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2. Umbra is the darkest part of a shadow.



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3. During a solar eclipse, the sun's light is blocked for some time.



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## Exercises Section II Distinguish Between The Following

1. Natural and artificial sources of light



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2. Transparent object and translucent object



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### 3. Converging and diverging beams of light



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### 4. Umbra and penumbra



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## Exercises Section II Short Answer Questions

### 1. What are illuminated objects?





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**2.** What does the arrow drawn on a ray of light indicate?



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**3.** How is a shadow formed?



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4. What is a total solar eclipse?



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## Exercises Section II Long Answer Questions

1. Explain the rectilinear propagation of light with an activity to support the concept.



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2. Explain how an image is formed in a pinhole camera. Write the characteristics of the image formed with the help of a diagram.



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3. Explain lunar and solar eclipses with the help of diagrams.



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Sun



Moon



Stars



Bulb



Pencil



Candle



Rocks

1.

Categorize the objects shown above as luminous and non-luminous objects.



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Sun



Moon



Stars



Bulb



Pencil



Candle



Rocks

2.

How can a non-luminous metal such as iron be made luminous?



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3.

What is bioluminescence?



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4. What are the substances that allow most of the light to pass through them called?



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5. What are the substances that do not allow light to pass through them called?



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6. Transparent object and translucent object



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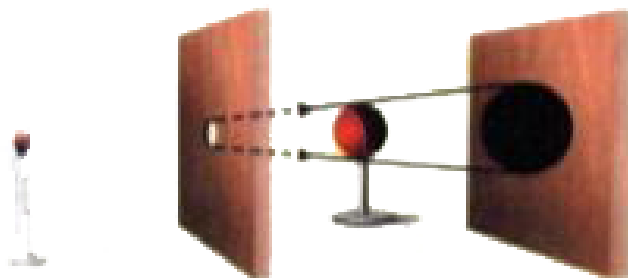
7. The moon does not have light of its own.

How are we then able to see the moon?



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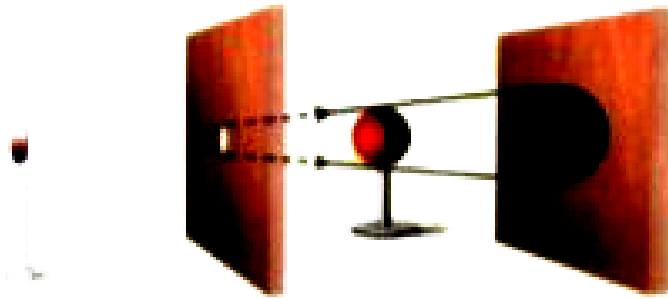
8.



What happens if an opaque object is placed in the path of light as shown in the above figure?



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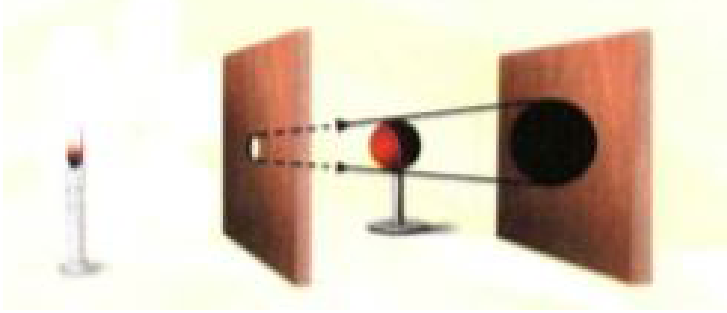


9.

How does the nature of a shadow depend on the light source?



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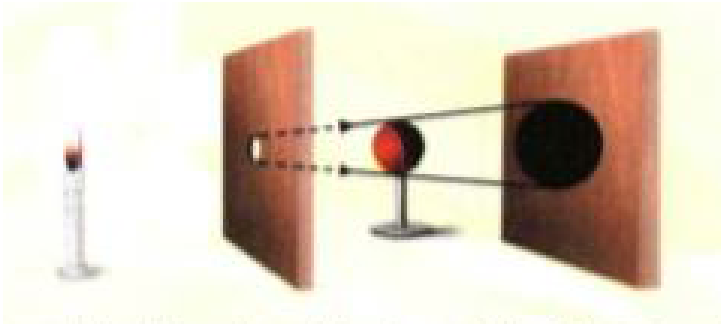
10.

How much light does the umbra region of a shadow receive from the source?



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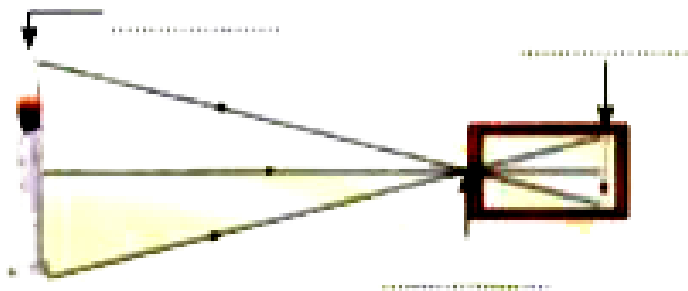


11.

What is the region of a shadow that receives some light from the source and gets partially illuminate called?



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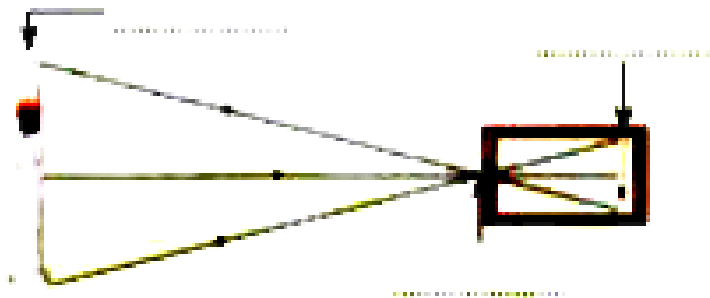


12.

Label the figure.



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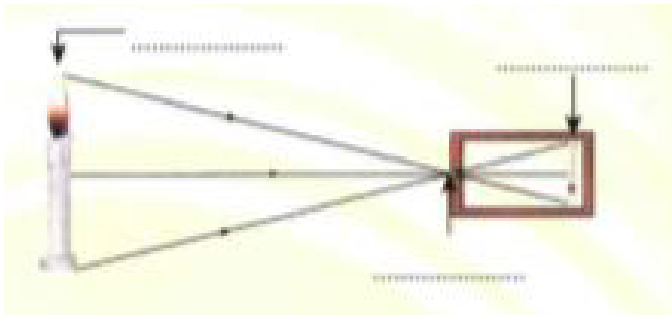
13.

What are the characteristics of an image

formed by a pinhole camera?



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**14.**

What determines the size of a pinhole camera image?



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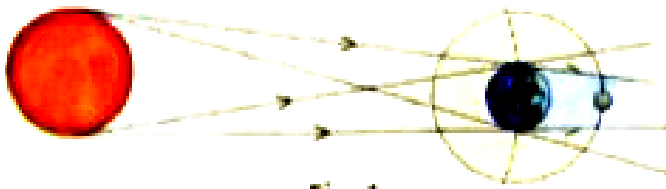


Fig. 1



Fig. 2

15.

Name the type of eclipses shown in the Figures 1 and 2.



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Fig. 1



Fig. 2

16.

Why do these objects form shadows?



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Fig. 1

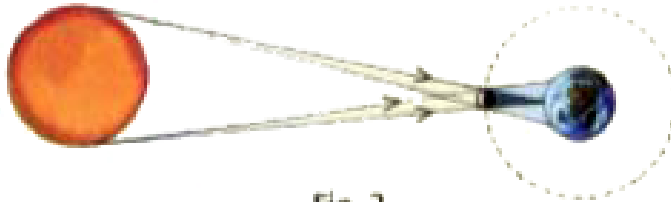


Fig. 2

17.

When does a lunar eclipse take place?



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18. In which region of the Earth's shadow is the moon, when a total lunar eclipse takes place?



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Fig. 1

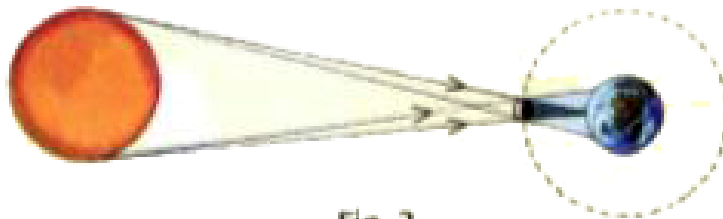


Fig. 2

19.

Which celestial object is responsible for blocking the light of the sun during  
i.a solar eclipse and ii.a lunar eclipse.



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Fig. 1



Fig. 2

20.

What is the position of an observer on the Earth who sees a partial solar eclipse?



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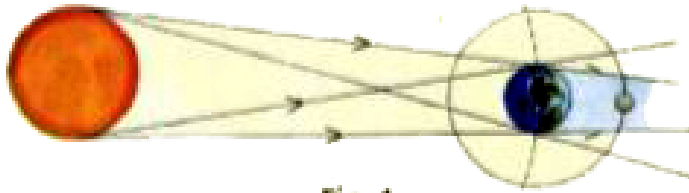


Fig. 1

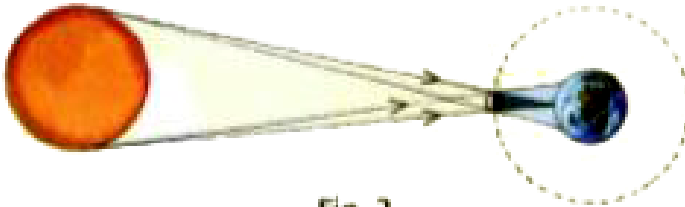


Fig. 2

21.

When does a solar eclipse take place?



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