

1. Fill in the blanks using the right words from the bracket.

( straight, beam, refraction, gives, prism, reflection, enters )

Light source is an object that \_\_\_\_\_ off light.

A band of light is called \_\_\_\_\_ of light.

We can see a light source when the light from the source \_\_\_\_\_ into our eyes.

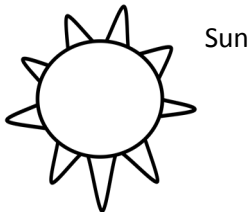
Light travels through a \_\_\_\_\_ path.

Bouncing of light from a shiny surface is called \_\_\_\_\_

When light moves from one medium into another it changes its direction which is called \_\_\_\_\_ of light.

When white light passes through a \_\_\_\_\_ it separates into different colors.

2. Explain how the boy in the picture below can see the ball.



3. State whether following materials are transparent, translucent or opaque.

Air \_\_\_\_\_

Water \_\_\_\_\_

Cardboard \_\_\_\_\_

Frosted glass \_\_\_\_\_

Wood \_\_\_\_\_

Wax paper \_\_\_\_\_

Ceramic \_\_\_\_\_

Clear glass \_\_\_\_\_

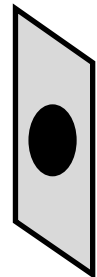
4. Shadow of an opaque object is seen in the picture below.



Flash light



Opaque object



Screen

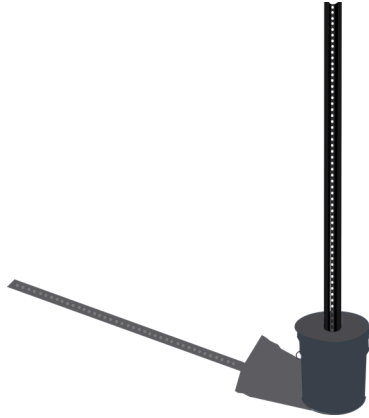
A. State what will happen to the shadow if the flash light is moved closer to the opaque object.

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B. State what will happen to the shadow if the opaque object moved closer to the screen.

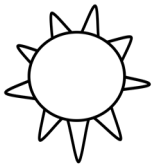
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5. A signpost stand seen in the picture with its shadow. Explain why its shadow changes throughout the day.



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6. Explain why the eye in the picture below sees the apple in red color.



Sun



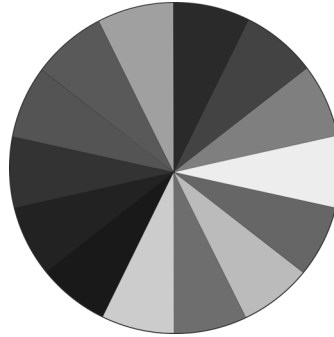
Eye



Red apple

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7. The disc in the picture is called Newton's Disc. It is painted into different colors. State what will happen if the disc will be rotated around its center at very high speed?



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8. State whether following expressions are true or false.

If an object reflects little or no light it is seen in black.

\_\_\_\_\_

If an object reflect all the light and absorbs very little, it is seen in white.

\_\_\_\_\_

If we wear white clothes in a sunny day in summer that will help us to stay cool.

\_\_\_\_\_

Transparent objects don't allow light to pass through them.

\_\_\_\_\_

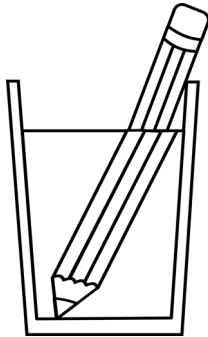
Translucent objects allows light partially to pass through them.

\_\_\_\_\_

Light travels at different speeds in different mediums.

\_\_\_\_\_

9. When a pencil is placed in a glass of water it looks as if it is bent. State what is the reason for that.



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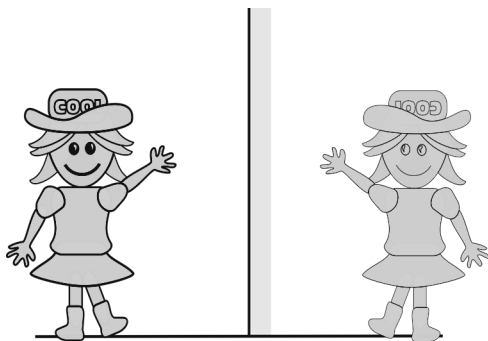
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10. Formation of an image on the plane mirror is illustrated below. Write down the characteristics of an image that is formed on a plane mirror.



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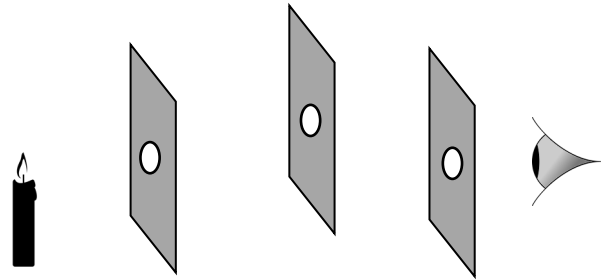
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11. Cardboards with holes placed between the eye and candle. Explain why the eye in the picture can not see the light from the candle.



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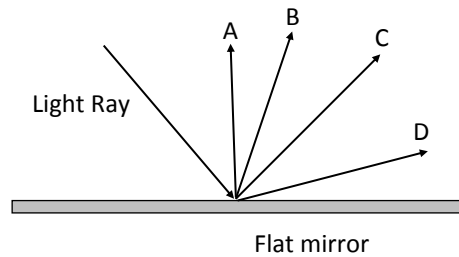
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12. A light ray is seen in the diagram as it hits the surface of a flat mirror. Which one of the lines A, B, C or D could represent the route that the light ray will travel after it is reflected? Give a reason for your answer.



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1. Fill in the blanks using the right words from the bracket.

( straight, beam, refraction, gives, prism, reflection, enters )

Light source is an object that **gives** off light.

A band of light is called **beam** of light.

We can see a light source when the light from the source **enters** into our eyes.

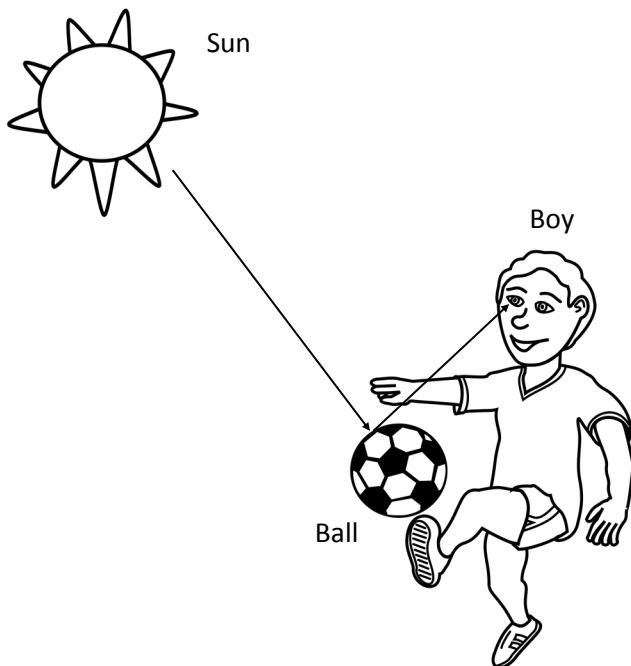
Light travels through a **straight** path.

Bouncing of light from a shiny surface is called **re-  
flection**.

When light moves from one medium into another it changes its direction which is called **refraction** of light.

When white light passes through a **prism** it separates into different colors.

2. Explain how the boy in the picture below can see the ball.



The boy can see the ball when the light from the sun is reflected from the ball and goes into the boy's eyes.

3. State whether following materials are transparent, translucent or opaque.

Air **Transparent**

Water **Transparent**

Cardboard **Opaque**

Frosted glass **Translucent**

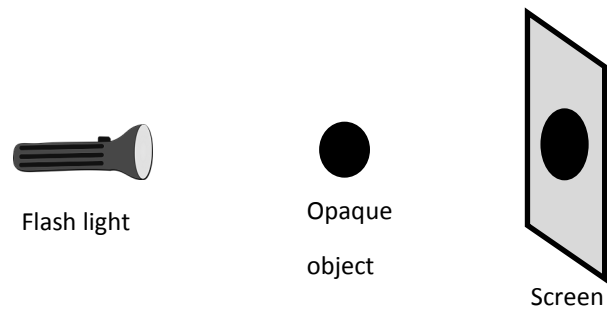
Wood **Opaque**

Wax paper **Translucent**

Ceramic **Opaque**

Clear glass **Transparent**

4. Shadow of an opaque object is seen in the picture below.



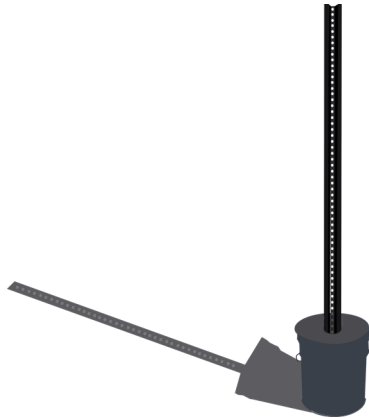
A. State what will happen to the shadow if the flash light is moved closer to the opaque object.

A. The shadow of the object will become larger.

B. State what will happen to the shadow if the opaque object moved closer to the screen.

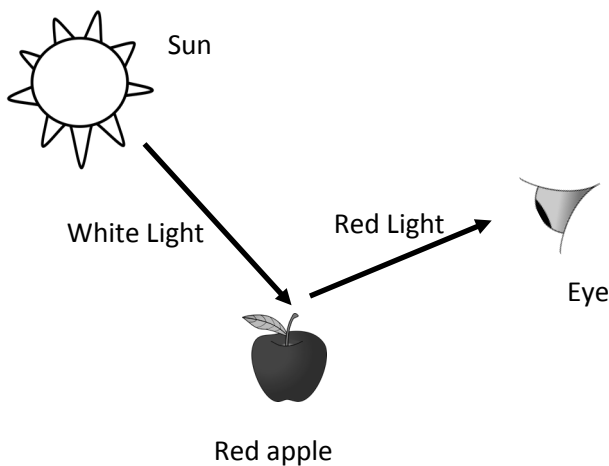
B. The shadow of the object will become smaller.

5. A signpost stand seen in the picture with its shadow. Explain why its shadow changes throughout the day.



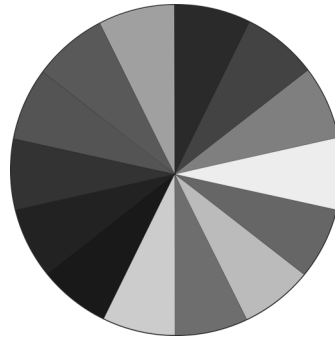
The shadow of the stand changes throughout the day due to the reason that the position of the sun in the sky changes continuously during the day.

6. Explain why the eye in the picture below sees the apple in red color.



Apple absorbs all the colors of light and reflect only red light. That is why it is seen in red color.

7. The disc in the picture is called Newton's Disc. It is painted into different colors. State what will happen if the disc will be rotated around its center at very high speed?



When the disc is rotated around its center the colors on it fade and disc appears to be in white color. This is the demonstration to show that white light is the mixture of other colors of light.

8. State whether following expressions are true or false.

If an object reflects little or no light it is seen in black.

**True**

If an object reflect all the light and absorbs very little, it is seen in white. **True**

If we wear white clothes in a sunny day in summer that will help us to stay cool. **True**

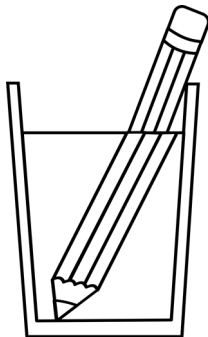
Transparent objects don't allow light to pass through them. **False**

Translucent objects allows light partially to pass through them. **True**

Light travels at different speeds in different mediums.

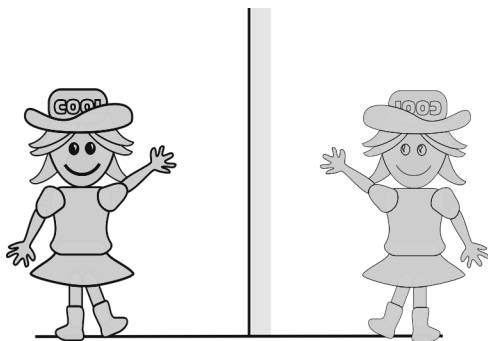
**True**

9. When a pencil is placed in a glass of water it looks as if it is bent. State what is the reason for that.



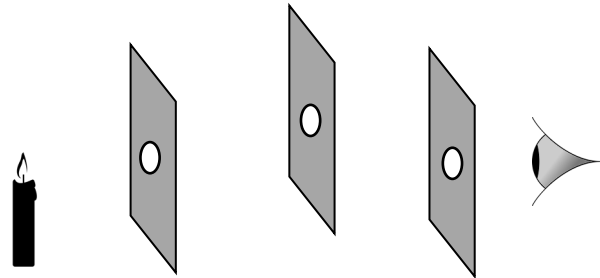
When light moves from one medium to another one it changes its direction. This is called refraction. The reflected light from the pencil changes its direction when it moves from water to air. That is why we see the pencil different than how actually it supposed to appear. This happens due to the refraction of light.

10. Formation of an image on the plane mirror is illustrated below. Write down the characteristics of an image that is formed on a plane mirror.



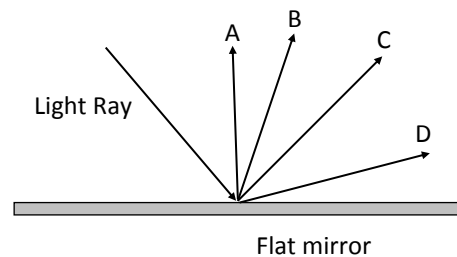
The image formed in a flat mirror is;  
 in the same appearance of the object,  
 in the same size of the object,  
 the same distant from the mirror as the object,  
 left-right reversed,  
 the same way up as the object,  
 and virtual.

11. Cardboards with holes placed between the eye and candle. Explain why the eye in the picture can not see the light from the candle.



Light travels through the straight path. Since the holes on the cardboards above are not on the same line the eye can not see the light from the candle.

12. A light ray is seen in the diagram as it hits the surface of a flat mirror. Which one of the lines A, B, C or D could represent the route that the light ray will travel after it is reflected? Give a reason for your answer.



After reflected the light ray travel through the route which is labelled as C. this is because the light is reflected with the same angle it hits a shiny surface.

Angle of incidence = Angle of reflection