



Provincial Department Of Education – Sabaragamuwa
WEEKLY SCHOOL

Subject : Science

Grade 7

Week : 7th of 2nd Term

Unit 9 – Light(1)

✓ Complete the following activities using the textbook or other appropriate learning resources.

Activity 9.1

You will need :- A candle, a white screen, a small ball

Method :-

- Place the lighted candle on a table, keep the ball in front of it and obtain the umbra of the ball on a screen or on a wall.

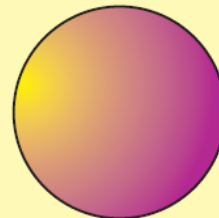


Figure 9.2 ▲

- Keep notes of what you observed from above activity.

Activity 9.2

You will need :- An electric torch, a screen, a small ball, a translucent glass sheet, a cardboard sheet, a transparent glass

Method :-

- Place the lighted electric torch, the transparent glass sheet and the ball as shown in the Figure 9.3 and obtain the umbra of the ball on a screen or on a wall.
- Observe the nature of the umbra.
- Then replace the transparent glass sheet with the translucent glass sheet and observe the umbra formed.
- Finally replace the translucent glass sheet with the cardboard sheet and see whether an umbra of the ball can be obtained.

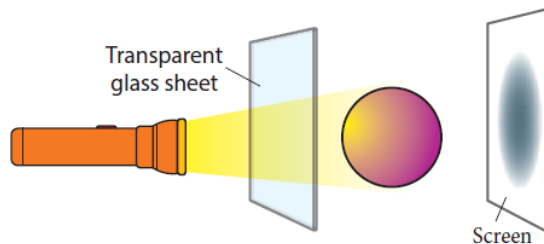


Figure 9.3 ▲

Compare your observations with those given below.

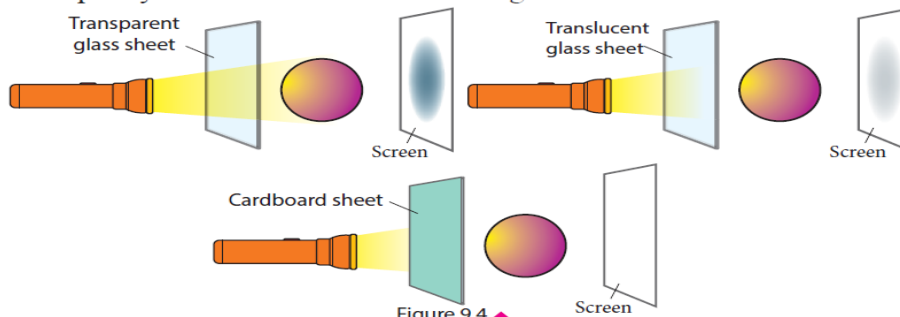


Figure 9.4 ▲

Activity 9.3

You will need:- An electric torch, a screen, a small ball

Method:-

- Place the ball in front of the lighted electric torch and obtain its umbra on a screen or on a wall.
- Identify the dark brown/light brown umbra and penumbra of the ball.
- Change the distance between the ball and the electric torch and observe how the umbra and penumbra are changing.

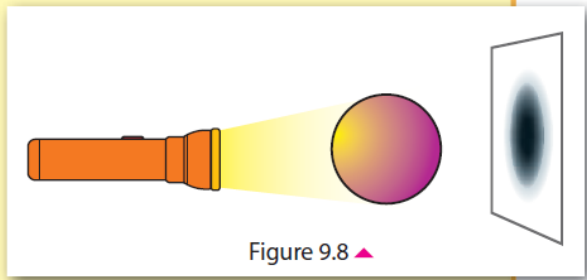


Figure 9.8 ▲

- Compare your observations with those given in figure 9.9 and name the shown area.

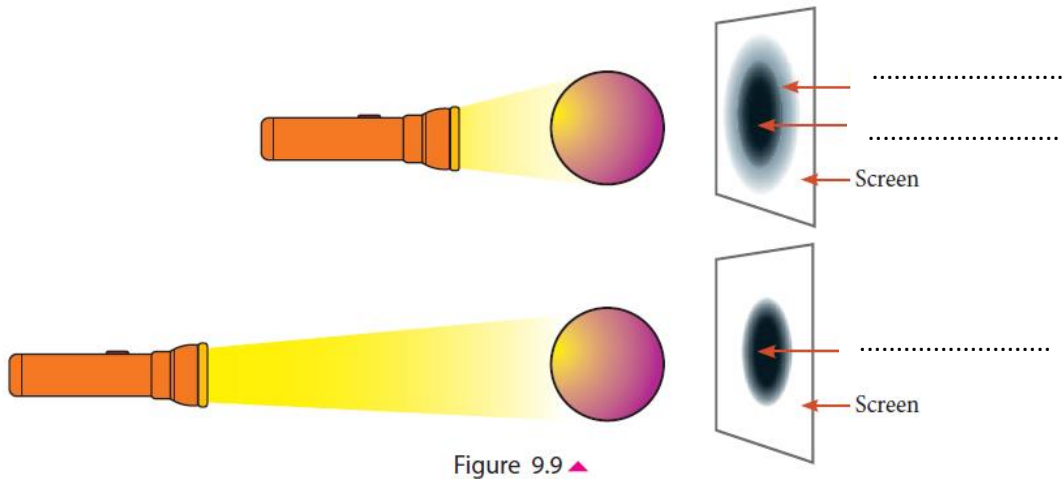


Figure 9.9 ▲

Activity 9.4

You will need:- A piece of polythene, red and blue cellophane sheets, a torch, red and blue marker pens, platinium, a small ball, a screen

Method:-

- Tie the piece of polythene on to the face of the torch and divide it into two semi-circles.
- Colour one of the semi-circles in blue and the other in red or use red and blue cellophane to cover face of the torch.
- Light the torch and focus it until you observe mixed colours on the screen.

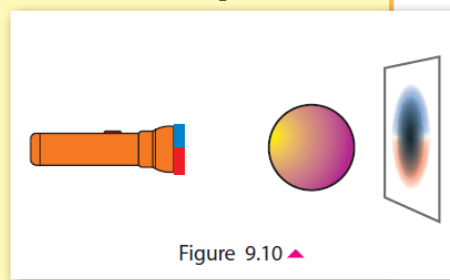


Figure 9.10 ▲

- Compare your observations with the following.

