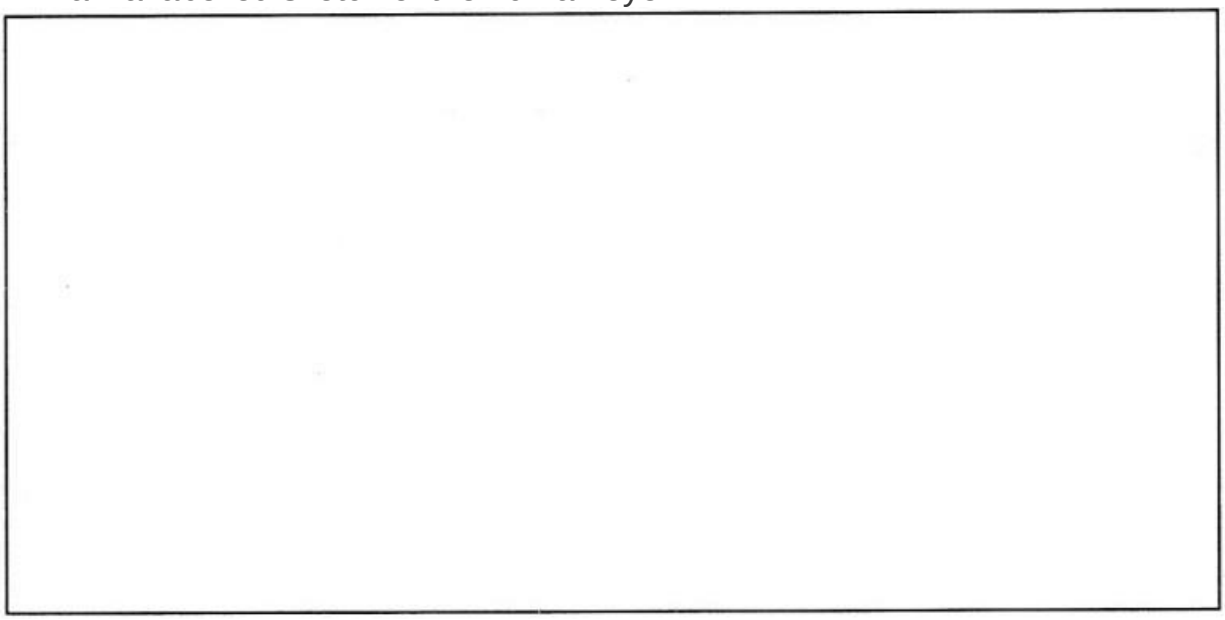
Grade 8 Light Worksheets

A. Answer the following questions in short:

1. Suppose you are in a dark room. Can you see objects in the room? Can you see objects outside the room. Explain.
2. Differentiate between regular and diffused reflection. Does diffused reflection mean the failure of the laws of reflection?
3. Mention against each of the following whether regular or diffused reflection will take place when a beam of light strikes. Justify your answer in each case:

(a) Polished wooden table:
(b) Chalk powder:
(c) Cardboard surface:
(d) Marble floor with water spread over it:
(e) Mirror:
(f) Piece of paper:

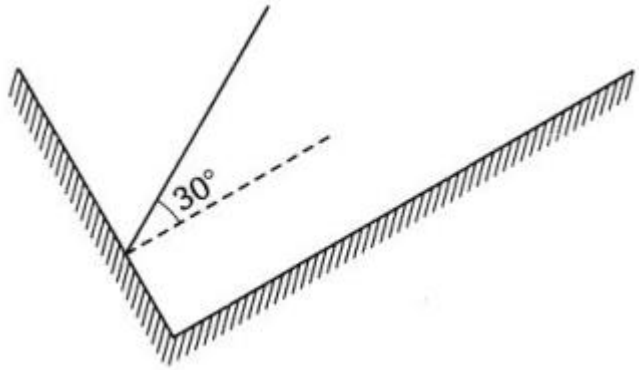
4. State the laws of reflection.
5. Describe an activity to show that the incident ray, the reflected ray and the normal at the point of incidence lie in the same plane.
6. Describe the construction of a kaleidoscope.
7. Draw a labelled sketch of the human eye.

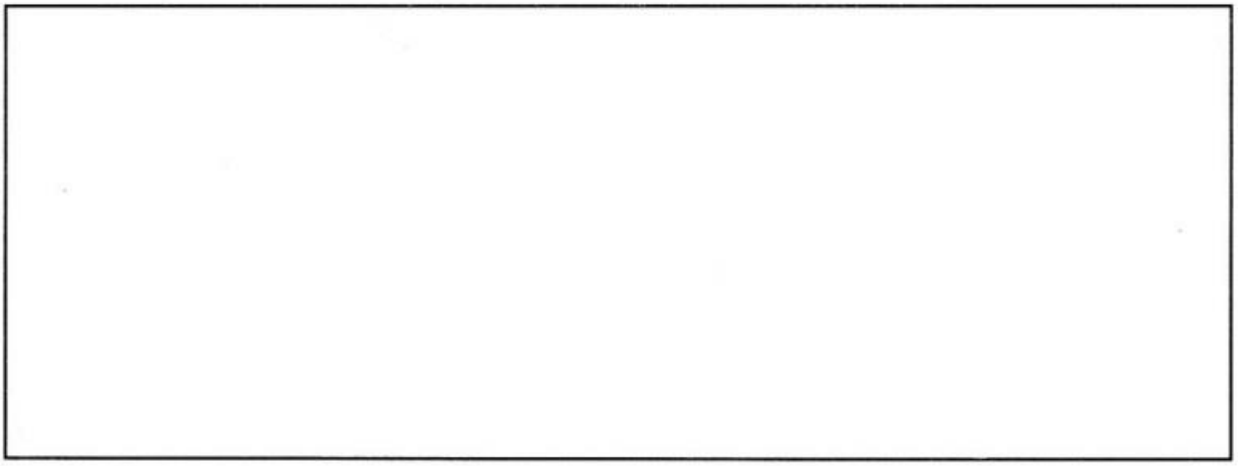


8. Gurmit wanted to perform Activity 16.8 of NCERT textbook using a laser torch. Her teacher advised her not to do so. Can you explain the basis of the teacher's advise?
9. Explain how you can take care of your eyes.
10. What is the angle of incidence of a ray if the reflected ray is at an angle of 90° to the incident ray?
11. How many images of a candle will be formed if it is placed between two

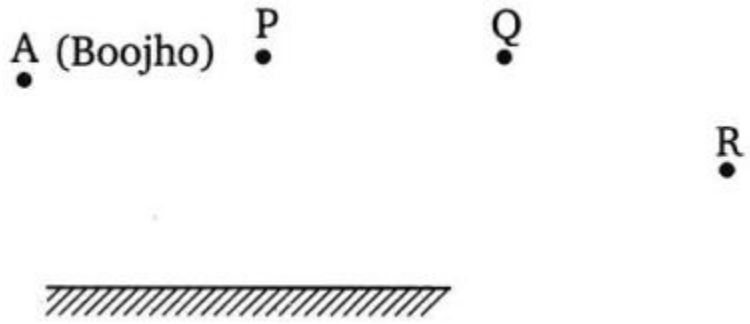
parallel plane mirrors separated by 40 cm?

12. Two mirrors meet at right angles. A ray of light is incident on one at an angle of 30° as shown in Fig. Draw the reflected ray from the second mirror.

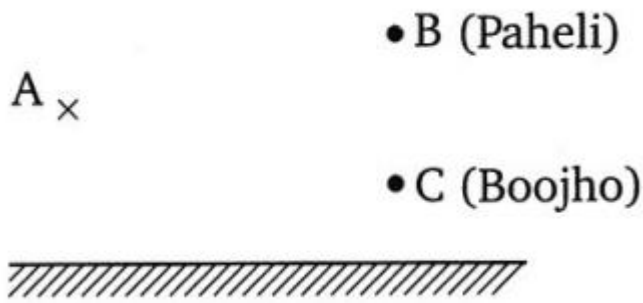




13. Boojho stands at A just on the side of a plane mirror as shown in Fig. Can he see himself in the mirror? Also can he see the image of objects situated at P, Q and R?



14. (a) Find out the position of the image of an object situated at A in the plane mirror (see Fig.).



(b) Can Paheli at B see this image (see Fig.)?
(c) Can Boojho at C see this image (see Fig.)?
(d) When Paheli moves from B to C, where does the image of A move (see Fig.)?
15. What kind of lens is there in our eyes? Where does it form the image of an object?
16. Explain the process which enables us to perceive motion in a cartoon film.

B. Fill in the blanks:
1. A person 1 m in front of a plane mirror seems to be …… m away from his image.
2. If you touch your …… ear with right hand in front of a plane mirror it will be seen in the mirror that your right ear is touched with …… .
3. The size of the pupil becomes …… when you see in dim light.
4. Night birds have …….. cones than rods in their eyes.
5. A …….. object is a source of light.
6. The sun is a …… body whereas moon is a …… body.

C. Tick (✓) the correct option:
1. Angle of incidence is equal to the angle of reflection.
(a) Always
(b) Sometimes
(c) Under special conditions
(d) Never

2. Image formed by a plane mirror is:
(a) virtual, behind the mirror and enlarged
(b) virtual, behind the mirror and of the same size as the object
(c) real at the surface of the mirror and enlarged
(d) real, behind the mirror and of the same size as the object

3. The ray of light which falls on a mirror is known as a/an:
(a) incident ray
(b) emergent ray

(c) reflected ray
(d) transmitted ray

4. The splitting of white light into its seven colours constituent is known as :
(a) refraction
(b) dispersion
(c) reflection
(d) deviation

5. An area at the junction of the optic nerve and the retina is:
(a) blind spot
(b) eye lens
(c) yellow spot
(d) pupil

D. State True or False:
1. The transparent and protective layer over the cornea is called conjunctiva. ……
2. Blindness by birth is called congenital blindness. ……..
3. Reflected ray is the ray of light that falls on a mirror. ……
4. Light travels in a straight line. ……..
5. During dispersion any kind of light splits into seven colours. …….

E. Make your own mirror. Take a glass strip on glass slab. Clean it and put it on a white sheet of paper. See yourself in the glass. Next put the glass slab on a black sheet of paper. Again look into the glass. In which case do you see yourself better and why?
F. Draw a line making an angle of 90° to the line representing the mirror at the point where the incident ray strikes the mirror. Measure the angle of incidence and the angle of reflection. Repeat the activity several times by changing the angle of incidence. Enter the data in the table given below:

S.No.	Angle of Incidence (∠i)	Angle of Reflection (∠r)
1.		
2.		
3.		
4.		
5.		