

EXPERIMENT - 1

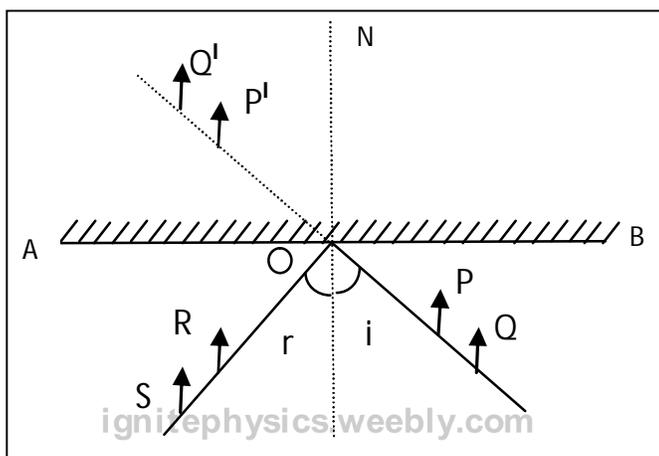
LAWS OF REFLECTION

Aim : To prove the Laws of reflection by using plane mirror.

Required : Drawing board-1, White paper, Drawing pins-4, Pins-4, Plane mirror, Wooden block, Pencil, Protractor, Scale

Description: Laws of reflection :

- * Angle of incidence is equal to angle of reflection.
- * Incident ray and reflected ray are either side to the normal drawn to the surface at point of incidence.



Procedure :

1. Fix a white paper on the drawing board with the help of drawing pins.
2. Draw a straight line AB at the centre of the paper.
3. Draw a normal line ON to the line AB at a point 'O' on AB.
4. Draw a straight line PQ such that it makes certain angle (i) with ON. (Incident ray)
5. Fix two pins at P and Q points vertically on the line PQ.
6. Observe the image P' of the pin P and Q' of the pin Q, in the mirror kept vertically along the line AB. (Keep wooden block to support the mirror.)
7. Fix two more pins R and S such that they are in the same line as that of P' and Q' .
8. Join R , S and O. (Reflected ray)
9. Measure the angle between RS and ON. Note down it as (r). This angle of reflection.
10. Note down the observations in the table.
11. Observe how the angle of incidence and angle of reflection are ?
12. Compare the position of incident ray and reflected ray with respect to normal.
13. Repeat the same procedure for various incident angles 2 or 3 times.

Observation :

SI No	Angle of incidence (i)	Angle of reflection (r)	Position of incident ray and reflected ray (Same side to the normal / either side of the normal)
1			
2			
3			

- We observed that angle of incidence is equal to angle of reflection in all cases.
(First law of reflection)
- We observed that incident ray and reflected ray are either side to the normal drawn to the surface at point of incidence in all cases.
(Second law of reflection)

Precautions :

- ❖ Fix the pins without parallax error.
- ❖ The mirror should not move until the each experiment is over.

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Result : The Laws of reflection by using plane mirror are verified.

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