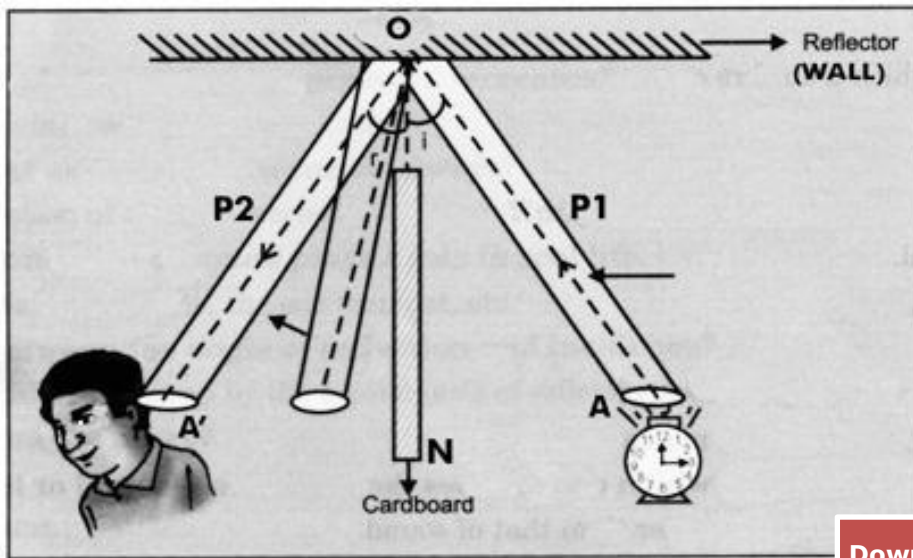


Class IX

EXPERIMENT No: 1

AIM: To verify the laws of reflection of sound.

APPARATUS/ MATERIALS REQUIRED: Two identical plastic pipes of length nearly 1m and of diameter nearly 6 cm to 10 cm, a protractor, a meter scale, table clock/ stop watch, chart paper, chalk



PROCEDURE:

1. Draw a line ON on the table normal to the wall surface with the chalk.
2. Draw a line OA making an acute angle with the line ON.
3. Put a plastic pipe P₁ (if plastic pipe is not available then you can use pipes made up of chart paper) over the OA such that the end of the pipe is very close to point O(point O is marked on the wall).
4. Put the second pipe P₂ on the other side of the normal making an acute angle with the line ON.
5. Keep the table clock close to end A.
6. Bring your ear close to the end A of the pipe P₂ , try to hear the sound, go on adjusting it, till you hear the maximum sound from the end A.
7. Draw a line OA representing the position of pipe P₂.

8. Measure angle $\angle AON$, the angle of reflection and angle $\angle AON$ the angle of incidence.
9. Repeat steps 2 to 8 by taking different values of angle of incidence and find corresponding values of angle of reflection.

OBSERVATION:

S. No.	Angle of incidence	Angle of reflection
1		
2		
3		

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Inference:

It is verified that on reflection of sound from a surface, sound waves obey the two laws of reflection.

- (i) Angle of incidence = angle of reflection
- (ii) The Incident ray, normal and the reflected ray are coplanar.

PRECAUTIONS:

1. Experiment must be performed in the peaceful atmosphere.
2. Wall should be smooth for reflection.
3. Measurement of angles should be done by taking the axis of the pipes as incident and reflected rays.
4. A cardboard or the wooden partition may be kept along the normal ON to avoid direct sound from the source