

# Higher Assignment Guide Sheet A: Refraction

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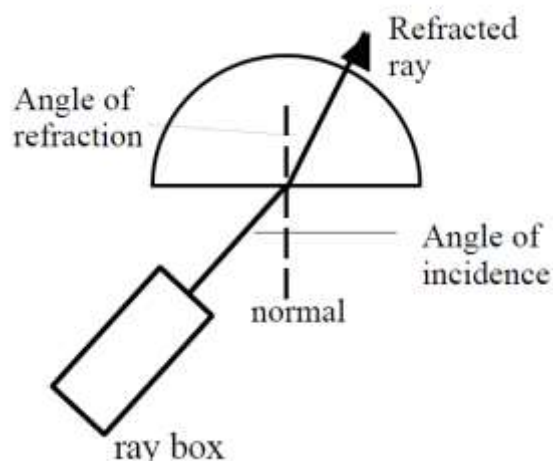
## Angle of refraction & angle of incidence

### Apparatus

A semicircular perspex block, a protractor, a ray box and power supply.

### Instructions

- Set up the apparatus as shown in the diagram.
- Draw the ray diagrams for different angles of incidence and measure the corresponding angle of refraction.
- Use an appropriate format to display the variation of the angle of refraction with the angle of incidence



### Risk Assessment

- Check all electrical cables
- This activity may take some time if done carefully, so the lamps may become hot.
- The base of the block should be frosted or painted with white paint, or total reflection at the base will prevent the path of the ray through the block being visible.
- Be observant to those around you.

### Research

1. <http://practicalphysics.org/law-refraction.html>
2. <http://practicalphysics.org/measurement-g-using-electronic-timer.html>
3. <https://www.bbc.com/bitesize/guides/z88dd2p/revision/1>
4. <http://tap.iop.org/vibration/index.html>
5. <http://practicalphysics.org/teaching-ray-optics.html>
6. <https://www.bbc.com/bitesize/guides/z88dd2p/revision/3>

7. <https://learning.hccs.edu/faculty/john.barry/physics-manuals/Physics-I-Lab-Manual.pdf>
8. <http://practicalphysics.org/optics.html>
9. [http://tap.iop.org/mechanics/wep/216/page\\_46406.html](http://tap.iop.org/mechanics/wep/216/page_46406.html)