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National 5 Assignment  
Refraction: Guide A

A close up of a toy

Description automatically generated

**Investigating angle of refraction and angle of incidence**

**Apparatus**

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

**Instructions**

* Set up the apparatus as shown in the diagram.
* Draw around a semi circular block and mark the normal along the centre of the middle of the flat surface.
* Mark angles on incidence using a protractor. All angles are marked from the normal.
* Shine the light from the ray box along the first marked pencil line.
* Draw the ray diagrams for different angles of incidence and measure the corresponding angle of refraction.

**Risk Assessment**

* Check all electrical cables and ensure non are frayed.
* 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.