# Refraction & Snell's Law #1

Objective

Measure the refraction of light through a clear plastic block and calculate the index of refraction of the plastic.

Plan

1. Place a clear plastic block on a piece of paper on top of a piece of foam core.
2. Trace around the block and be sure the block is in the same place as you perform each step.
3. Place two pins in front of the plastic block as shown below:
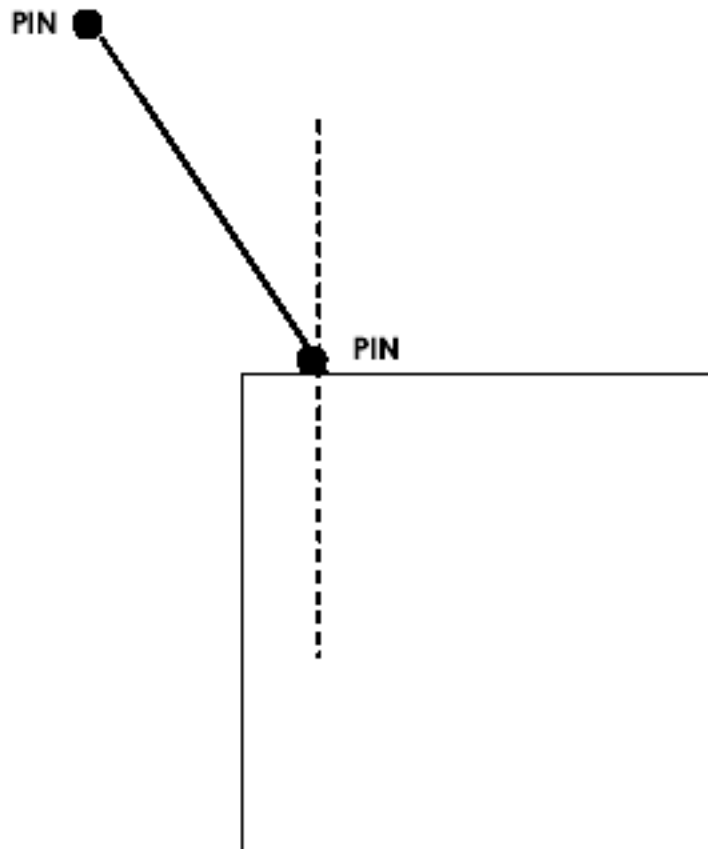
4. Look through the block and place two more pins exactly in line with the first two.Â (The pins in front of the block should completely block your view of the pins behind.)

Normal line

● - Dot represents a pin

Step 9

Normal line

Step 10
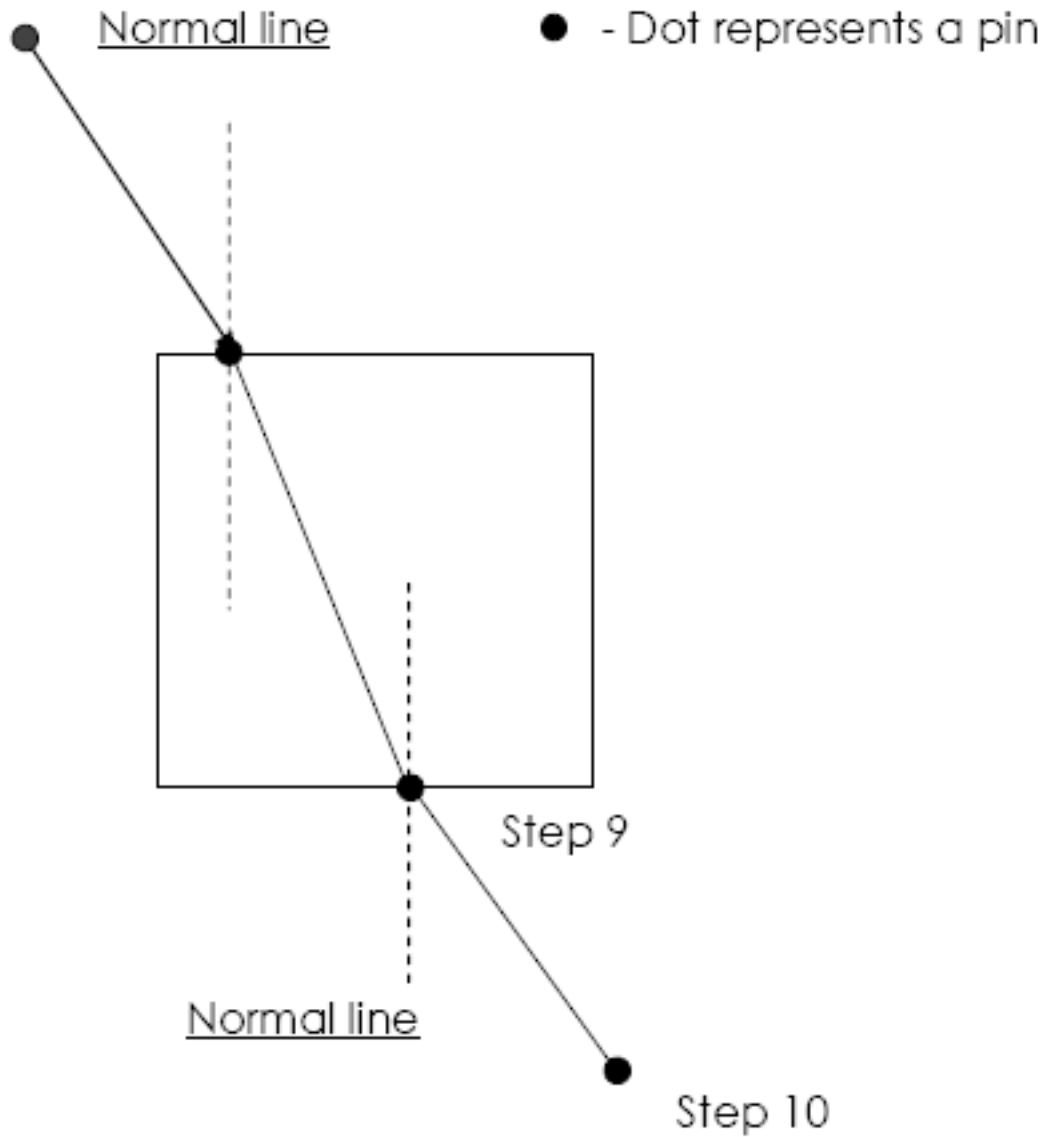
5. Remove all pins and the block.
6. Draw a line through the pin holesÂ on one side of the block and extend the line until it touches the edge of where the block was.
7. Repeat this step for the pin holes on the other side of the block.
8. Draw a line connecting the two points where the line touches the block.
9. Draw a line perpendicular to the block at the same intersection point and measure the angles of the two lines relative to the perpendicular.
10. Use Snell's Law, $n_1 \sin \hat{I}_1 = n_2 \sin \hat{I}_2$,Â Â to calculate the index of refraction of the block.