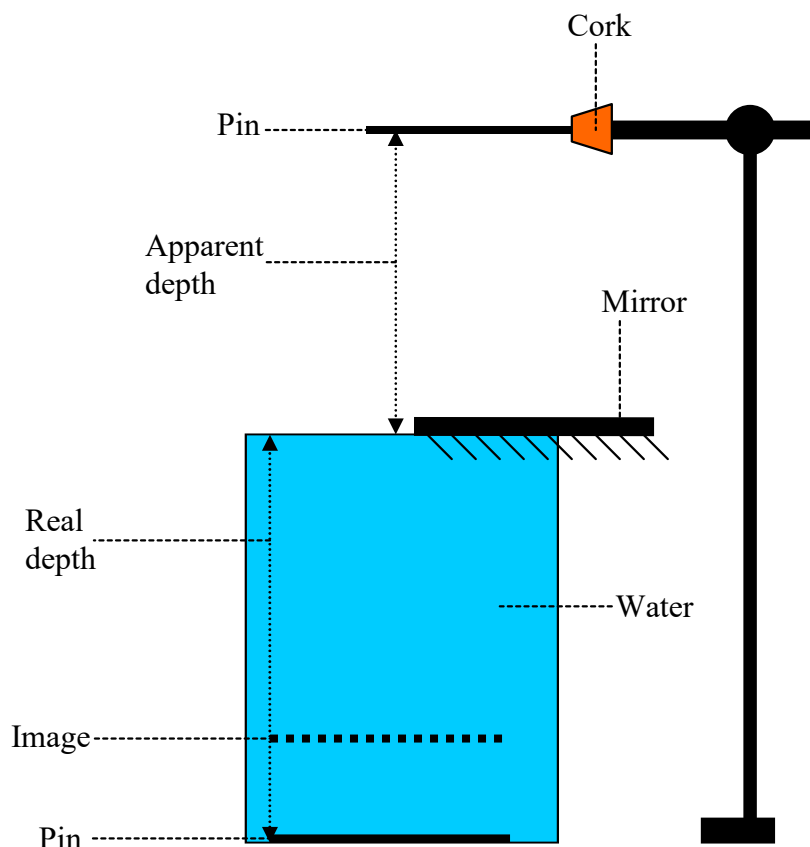


MEASUREMENT OF THE REFRACTIVE INDEX OF A LIQUID

Apparatus

Plane mirror, two pins, cork, retort stand, large containers.



Procedure

1. Fill a container to the top with water.
2. Place the plane mirror to one side on top of the container.
3. Put a pin on the bottom of the container.
4. Adjust the height of the pin in the cork above the mirror until there is no parallax between its image in the mirror and the image of the pin in the water.
5. Measure the distance from the pin in the cork to the back of the mirror – this is the apparent depth.
6. Measure the depth of the container – this is the real depth.
7. Calculate the refractive index, $n = \frac{\text{real depth}}{\text{apparent depth}}$.
8. Repeat using different size containers and get an average value for n .

Results

real depth/cm	apparent depth/cm	$n = \frac{\text{real depth}}{\text{apparent depth}}$

Average $n =$