

Analyzing the data:

- Find the average value of the index of refraction for water from the second experiment (from air through water).

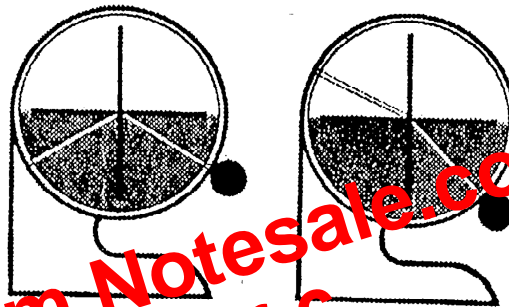
$$n_{w1} = \underline{\hspace{2cm}}$$

- Compare the value of n_{w1} and the actual value of the index of refraction of water ($n_w = 1.333$).

$$\text{Percent Error} = \underline{\hspace{2cm}} \%$$

Experiment 3: Refraction of light passing from water through air

Fill the water bath as in the previous experiment, but this time very slowly move the light source up starting at the bottom position.



Refraction of light passing from water into air

Data Table 3

Angle of incidence (θ_I)	0	10	20	30	40
$\sin(\theta_I)$					
Angle of refraction (θ_R)					
$\sin(\theta_R)$					
Index of refraction for water					

Analyzing the data:

- Find the average value of the index of refraction for water from the third experiment (from water through air).

$$n_{w2} = \underline{\hspace{2cm}}$$

- Compare the value of n_{w2} and the actual value of the index of refraction of water ($n_w = 1.333$).

$$\text{Percent Error} = \underline{\hspace{2cm}} \%$$