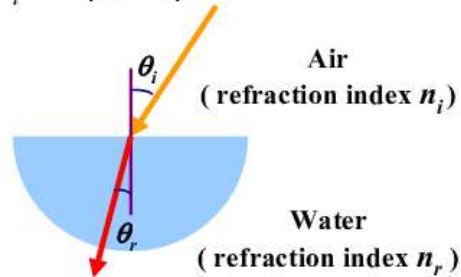


# Refraction Lab (Snell's Law) using Bending Light PhET Simulation

## Snell's law for refraction

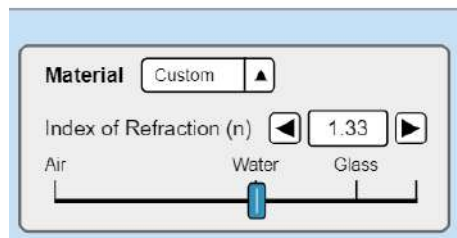
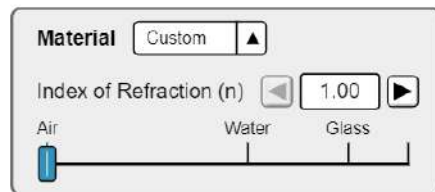
$$n_i \sin \theta_i = n_r \sin \theta_r$$



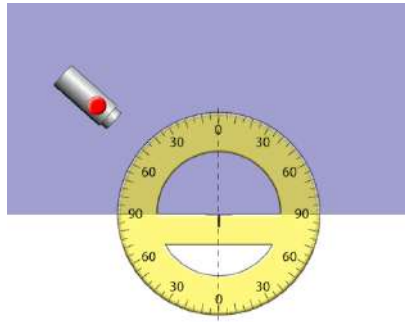
**Goal:** Determine the refraction index of water and glass. You and a partner will test the law of refraction using the [PhET Bending Light simulation](#). You will need to test at least 10 different angles to determine the refraction index of water.

Procedure:

1. Go to the [PhET Bending Light simulation](#) and click on Intro
2. Set the top material box slider on air and the bottom material box slider on water.

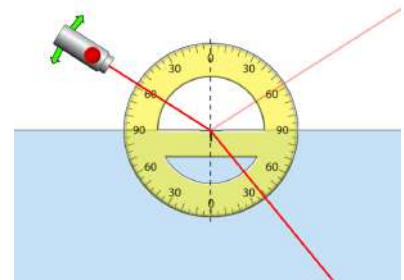


3. Place the protractor so that the 90 is on the horizontal line between the two mediums and the 0 lines up with the vertical dotted line



4. Test 5+ angles of incidence by moving the laser pointer. For each angle of incidence, record the angle of refraction and record them below

Angle of incidence	Angle of refraction



5. Calculate what the angle of refraction should be using Snell's Law for each of the 5 angles of incidence you tested. **Optional!!!!**
6. Create a claim, evidence, reasoning answering the question: **What does the law of refraction tell us?**  
**Use at least 2 evidence pieces to support your claim.**

**Known Values:**

Refraction Index of Air ( $n_1$ ): 1.0003

Water: 1.333

Glass: 1.50