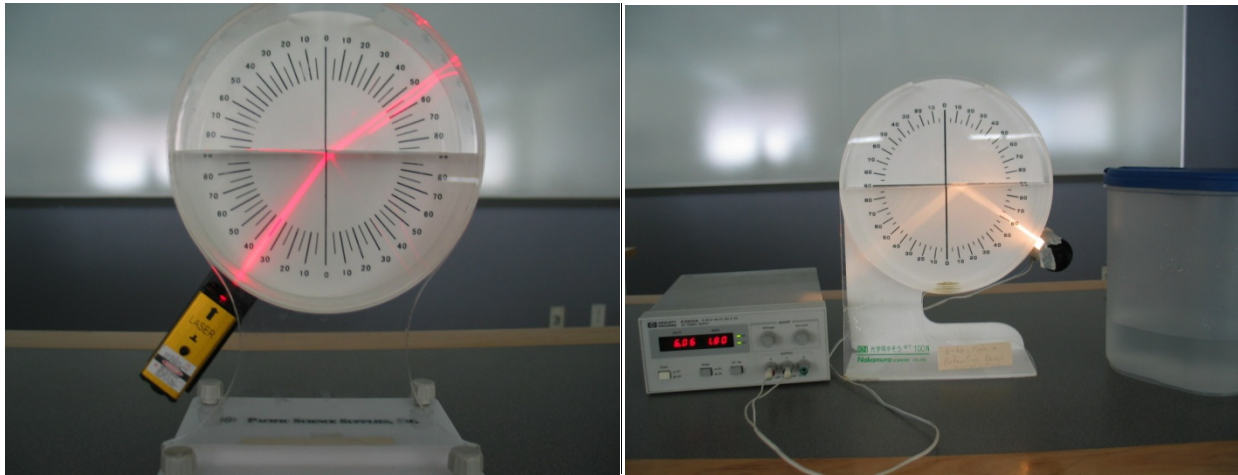


## Refraction and Total Internal Reflection



**Purpose:** To provide a visual demonstration of refraction and total internal reflection of a light beam at a interface of water and air.

**Location:** room 146, shelf O6; pitcher for water, A5; DC power supply, C3.

We have two of these refraction demo tanks, one uses a battery powered diode laser (Pacific Science Supplies) (left photo) and the other (larger) unit uses a collimated white light source (Nakamura) and a DC power supply. In either case use a pitcher of water to fill the tank to the halfway line. Simply push the red button on the laser unit and adjust the angle of incidence for refraction, then increase the angle of incidence past the critical angle to demonstrate total internal reflection. The white light unit can be done the same way, yet it requires connection to a DC power supply set at 6V (right photo). The alligator clips can be connected directly to the red and black outputs of the power supply. Make sure the voltage is turned down before connecting to avoid supply an overvoltage to the light source.