The Buoyant Force

Purpose: Demonstrates Archimedes Principle.

This demo hammers home the idea of the buoyant force in a simple, visual manner: you compare the weight of a brick in and out of water.

Note: The brick is convenient since you can measure the volume easily in real time.

Weight in air       24 N
Weight submerged    13 N
Difference          11 N

Volume             1150 cc
         (20.5 x 5.75 x 9.75) cc

Expected Difference:
1.15 kg x 9.8 m/s²= 11.3 N

Not bad for a lecture demo!
(The brick’s actual weight is 24.57 N.)
Extra Equipment: None

Location: Shelf D6