

Density and Pressure

$$\rho = m/V$$

Unit: kg/m^3

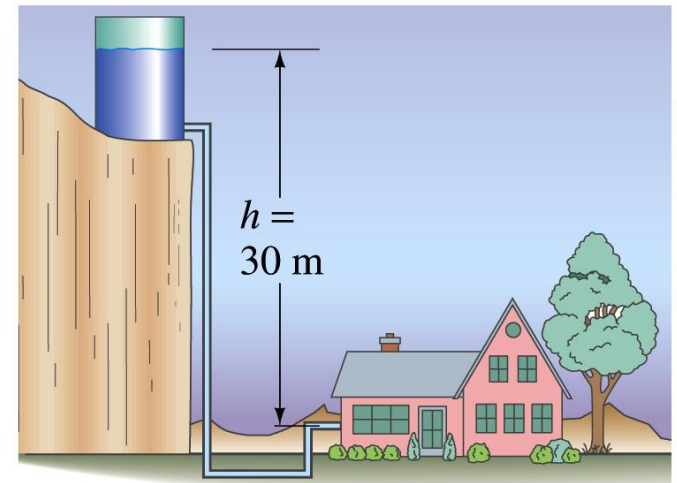
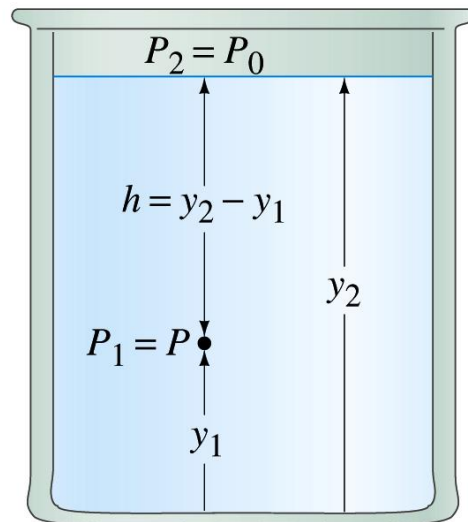
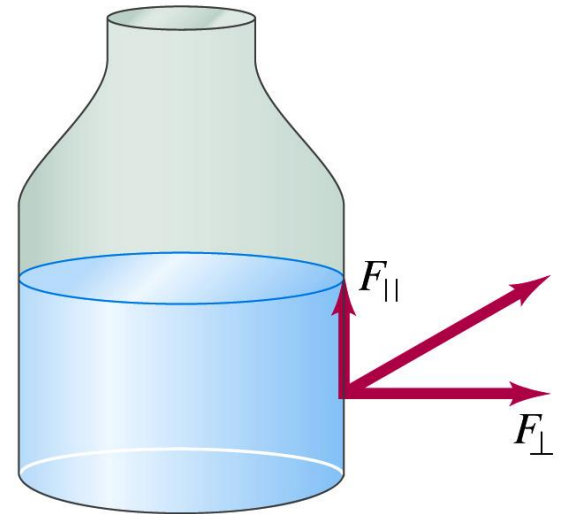
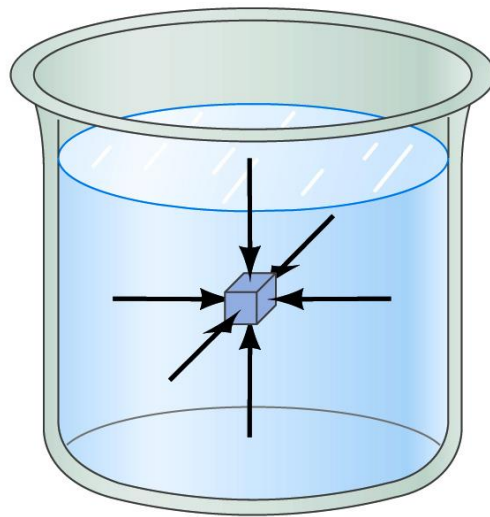
$$P = F_{\perp}/A$$

Unit: $\text{Pa} = \text{N}/\text{m}^2$

1 bar = 100,000 Pa

1 mbar = 100 Pa

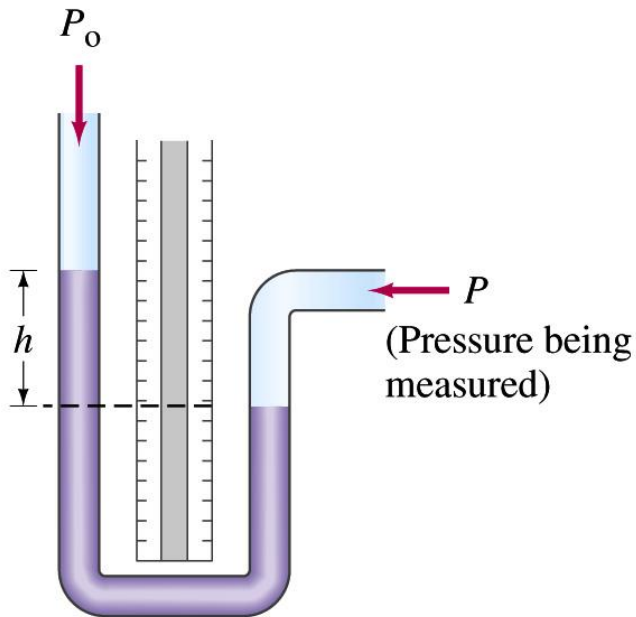
1 psi = 1 lb/in²



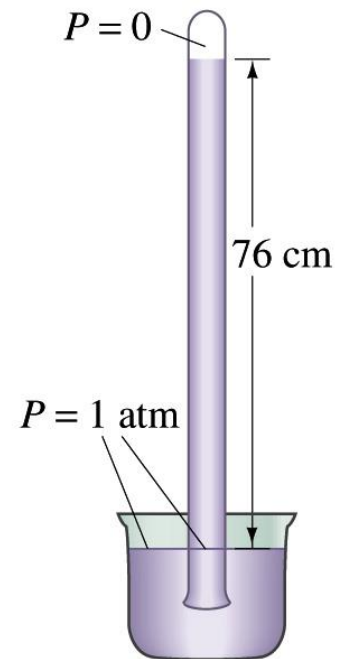
More Pressure

Pressure measurement:

$$P = P_0 + \rho gh$$



(a) Open-tube manometer



Archimedes Principle

The upwards force on an object is equal to the weight of the fluid displaced.

“Buoyancy”

