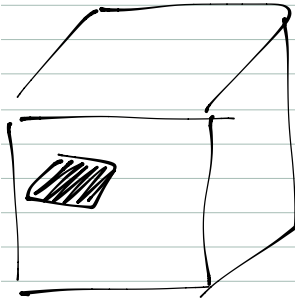


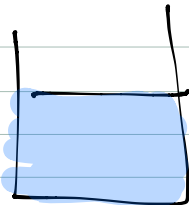
April 1st



Pressure at the segment = magnitude of average force due to particle / area of segment

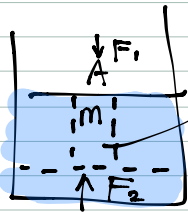
so, it's everywhere.

Liquid in a beaker

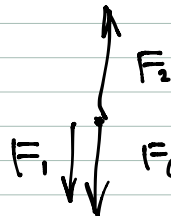


Q: Does the pressure vary with the depth  $d$  below the surface?

A: yes. Use Newton's Laws



portion of fluid has mass  $m$  and cross-sectional area  $A$ .



$F_{net}$  = net force on portion of fluid.

$$F_{net} = -F_1 + F_2 - F_g = 0$$

$$= -P_1 A + P_2 A - mg = 0$$

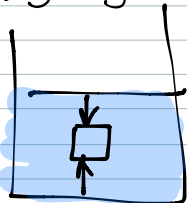
$$P_2 A = P_1 A + mg$$

$$P_2 = P_1 + mg/A = P_1 + \frac{\rho V}{A} g = P_1 + \frac{\rho A d}{A} g$$

$$= P_1 + \rho d g$$

$F_B \Leftarrow$

Buoyancy = force on an object placed in a fluid.



Both coke have smaller density than water

