

# LAB 13 - ARCHIMEDES' PRINCIPLE

PHYS 111

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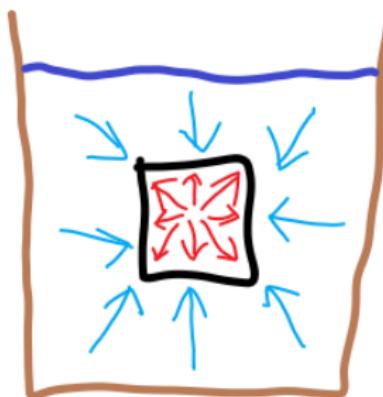
# EQUATION 1

$$\rho = \frac{m}{V}$$

## EQUATION 5

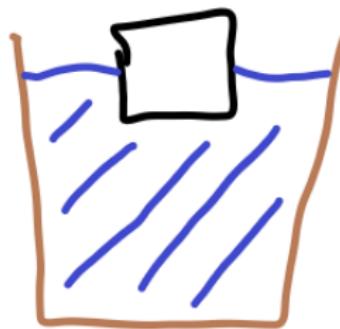
$$W = \rho_0 V g$$

# BUOYANT FORCE

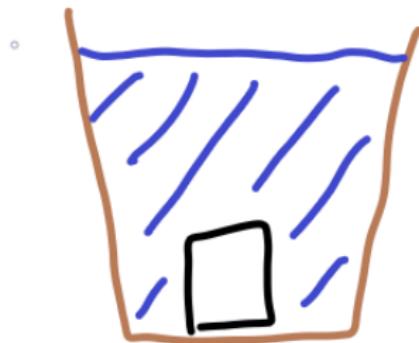


# FLOATING VS. SINKING

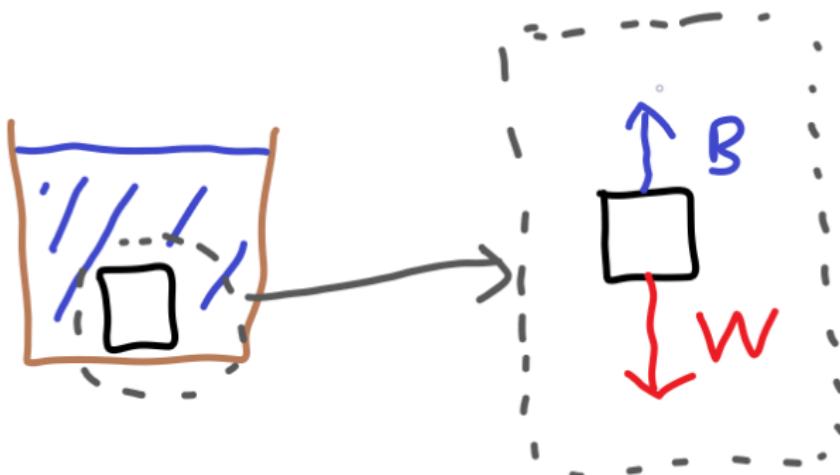
$$\rho_o < \rho_w$$



$$\rho_o > \rho_w$$



# FORCE DIAGRAM



## EQUATION 10

$$W = \rho_0 V g \quad (W_a)$$

$$B = \rho_w V g \quad (W_a - W_w)$$

$$\rho_0 = \frac{\rho_w}{1 - W_w/W_a}$$