Buoyancy

Monday, 26 February 2024 1:36 pm

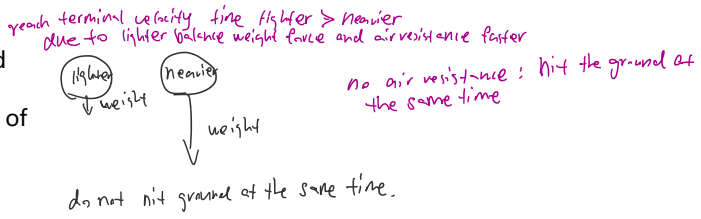
w=mg / F=ma W = weight force (N)
Mass is measure in KG

- Scalar quantity

More mass more hard to move

Buoyancy (upthrust) (Fb)

- The ability of any fluid (liquid or gas) to provide a vertical upward force on an object
- Cause by the difference in pressure between the top and bottom of a body in a fluid



P=m/v
M is mass kg
V is volume m^3

Fb = PVG
P = density kg/m
V = volume m^3
G = acceleration of free fall

Archimedes' principle - when an object is wholly or partially immerse in a fluid, it experience buoyancy force Fb, equal to the weight of the fluid displaced
Which : m=pv, w = mg, w = pvg

- More water displaces, more upthrust
- Weight of object lighter than weight of fluid, object float, weight of object heavier than weight of fluid, object sink.

Fb = PVG
Use for the buoyancy - the density is indicate the water, which it measure the weight force of the water.
Use for the weight force - the density is indicate the object
w=pvg = mg