BUOYANCY & DENSITY INTRODUCTION

An Object will sink until it floats

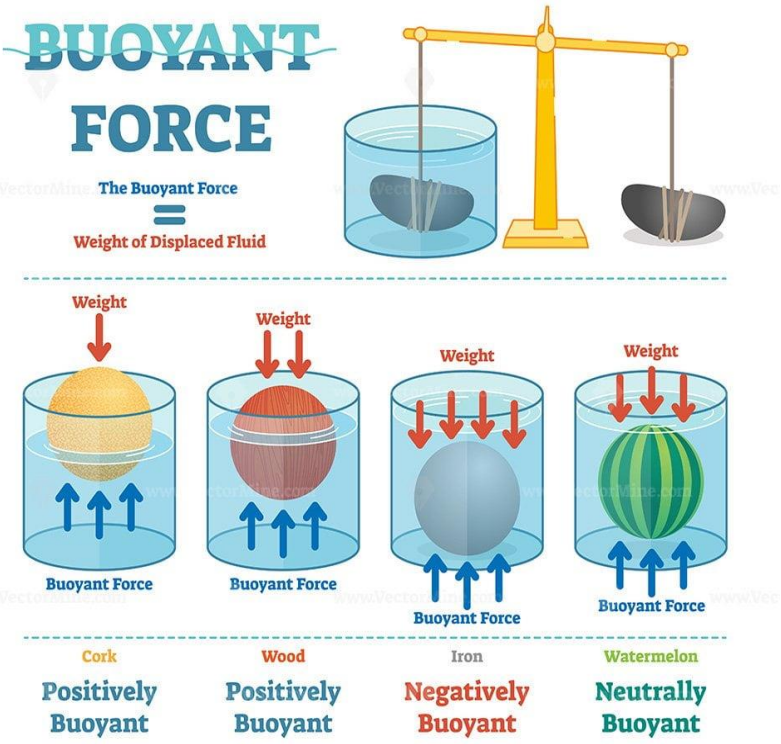
- ➔ An object placed in a fluid will sink until the mass of the object is equal to mass of the displaced fluid.
- ➔ The volume of an object under the "water line" is equal to the volume of displaced fluid.
- ➔ Objects less dense than will naturally float on fluids that are denser.

Gravity force ↓ = weight of object… (Gravity x Mass)
Buoyant force ↑ = Weight of displaced water

+ Positively Buoyant:
Gravity Force **<** Buoyant Force

Neutrally Buoyant:
Gravity Force **=** Buoyant Force

- Negatively Buoyant
Gravity Force **>** Buoyant Force



Archimedes Principle
Using the amount of water an object displaces to determine the object's volume.

Measure the amount of water there is
Measure the amount of water displaced
Subtract the two = volume of object

Ex.. An object submerged into a container containing 100 mL of H_2O causes the water line to rise up to the 125 mL mark.

125 mL – 100 mL = 25 mL

The volume of the object must be 25 mL… which is the volume of the displaced H_2O