PHYSICS | Properties of Matter

Archimedes Principle

General Aim
Determining the relative density or specific gravity (S) of solid and liquids using Archimedes principle.

Method
Weighing method

Learning Objectives (ILOs)
- Understanding the concept of Archimedes principle and the physics behind buoyancy force.
- Set up an experiment to determine the specific gravity of a solid or a liquid. Hence, the material can be identified.

Theoretical Background/Context
Buoyancy is an upward force (FB) exerted by a fluid that opposes the weight of an immersed object. Archimedes principle states that if a body is immersed in a liquid, it will be acted upon by upward force equal to the weight of the displaced liquid.

Principle of Work
Weighing a body in air, water and a liquid, will enable us to determine the specific gravity of the body and the liquid through simple relations that are based on Archimedes' principle.