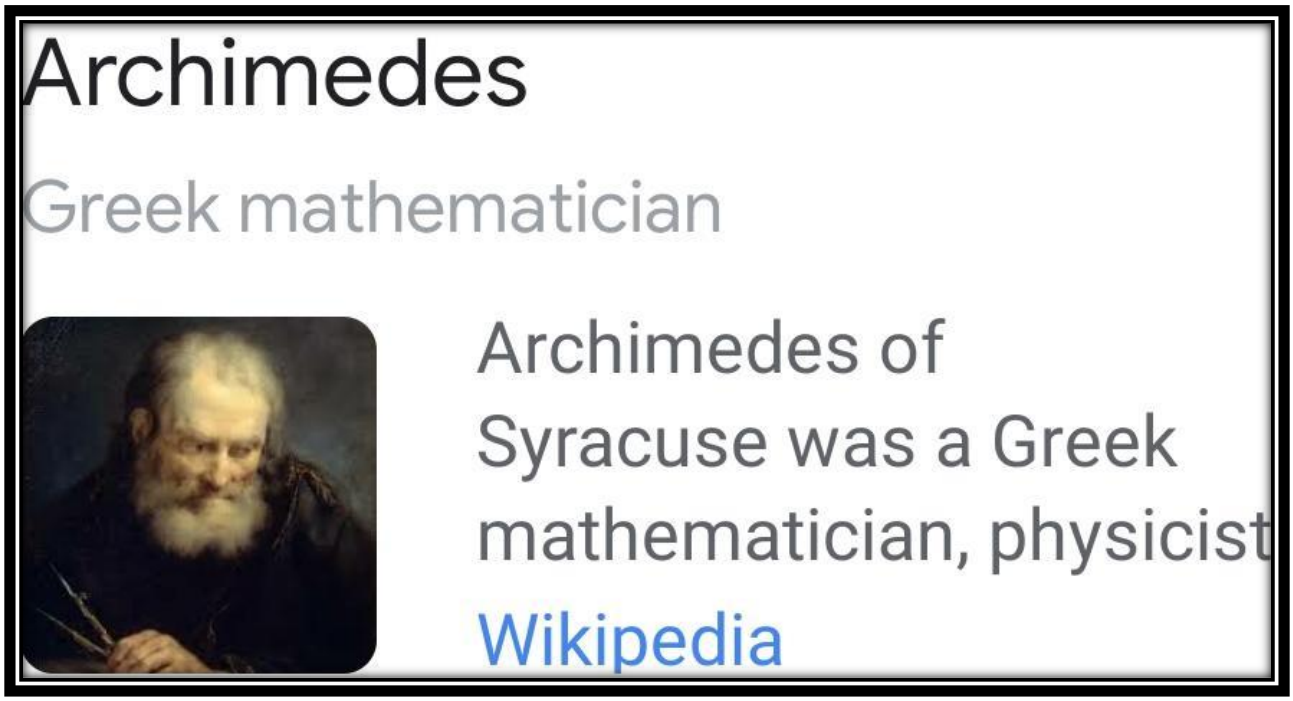
Subject: PHYSICS

Class. : 8

Topic : Physical Quantities and Measurement.



Physics describes the real world with measurable quantities known as

physical quantities like length, mass time ,density, area , volume and so on

Density is defined as the ratio of the mass of a body to its volume.

Density = Mass/Volume.= M/V

- **SI unit = kg / m^3 (Kilogram per cubic metre).**
- **CGS unit : density measured in gram per cubic centimetre (g cm^-3)**
- **1gcm^-3 = 1000 kg m^-3**
- **S.I unit of density is kg m^{-3}**

- **Density of a pure substance is it's characteristics property**

Determination of density of an regular and irregular solid using

- **Eureka can ,measuring cylinder.to determine density using Eureka can**

Determination of density of liquids

(The density of liquids lie between 0.7 to 1.3 gcm^3)

- ***Archimedes' Principle states that the upward bouyant force that is exerted on a body immersed in a fluid , whether fully or partially submerged is***

equal to the weight of the fluid that the body displaces.

- **A body floats in a fluid – the density of the body is less than or equal to the density of the fluid in which it is to float.**
- **A body sinks in a fluid – the density of the body is more than the density of the fluid in which it sinks.https://youtu.be/nMlXU97E-uQ**

- ***floating and sinkingfloating and sink***

Worksheet

Short answer type questions

1. What is density? State its units
2. Name the principle which gives the magnitude of buoyant force acting on a solid body immersed in .
3. Where does a solid weighs more in air or in a liquid.
4. What is the density of water in SI units.
5. State Archimedes principle.

Long answer type questions.

1. When does a body floats in a liquid.
   When does a body sink in a liquid.

2. Explain the method applied for determining the density of solids (regular and irregular)and also determine the density of a liquid.
3. Boats and ships are floating objects explain.
4. Complete exercises.
   C,D,E,F,G,H,I,J (Q 2,6,7,9)