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#1)

The property of fluids that allow objects to float.
Density

An instrument that measures the density → hydrometer

Increase as the volume of a ship's hull increases
average density

This value equals the desity of substance
mass to volume ratio

The pull of gravity on a mass weight

The space occupied by an object Volume

Opposes the force of gravity buoyant force

4a) Weight is the amount of gravity exerted on an object

buoyant force → upward force given by a fluid on a object

5) An object placed in a fluid, it will displace a volume of fluid. The volume of the fluid displaced will equal the volume of the object. The weight of the objects volume is the buoyant force exerted by the fluid on an object..

7a) At a volume of 50 the substance with the largest mass is material 1 (highest on grid)

b) The substance that takes up the most space at 100 g is material 3 since it takes up about 35 cm^3 while mateial 2 has 12.5 cm^3 and material 1 has about 10 cm^3.

c) Material 1

$$\frac{560g}{50cm^3}$$

$= 11.2\ g/cm^3$

Material 2

$$\frac{395g}{50cm^3}$$

$= 7.9\ g/cm^3$

Material 3

$$\frac{140g}{50cm^3}$$

$= 2.8\ g/cm^3$

12) Model boat mass 320g and displaces 260 g of water. It will sink since the weight of the boat is greater than the weight of the water it displaces.

13a) To make a substance that is less dense than water sinkin water you squish it in a ball (must displace a volume of water less weight than volume of substance)

13a) To make a substance that is denser than water float water you spread out the area and decrease average density

Attachments

Archimedes story.docx

Chapter 5 Review Questions Pg 160.docx