Samuel Evans
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2nd Period
Density lab #1

Research question-How are density units determined and what is the real world application of density?

Introduction-

Density is defined mathematically as the ratio of a substance mass and volume:

p=mass/volume

Density uses the derived units; in chemistry, the derived units are usually g/ml or g/cm3. The latter is equivalent to the formal because 1ml=1cm3

Procedures-

First, we measured the mass of a PVC sample using an electric scale. We filled our graduated cylinder with 50.0mL of water then slid the sample into the cylinder. We then measured the new volume of water, being careful each time to measure at the meniscus. Next, we subtracted these two volumes to obtain the sample volume. The sample's mass was divided by its volume to obtain density. Each lab group then announced their findings and a comparison of these was made.

Data/Observation;

Mass of PVC-11.0g
Volume of cylinder-50.0ml

New Volume-58.0ml

Mass of PVC divided by the new volume=1.4

Conclusion:

The units of density are determined by the units used for mass and volume and then dividing those units with their respective quantities. These are derived units renowned by computation. Density is a physical trait that determines if an object will sink or float in a liquid if the object density is greater than the liquid density, it floats. The cylinder had a greater density than the H2O and therefore it sank.

Mass- measures how much matter exists in an object

Density-ratio of a substances mass and volume

Buoyancy- the tendency of an object to float in water

Physical Property-characteristic of a substance that can be observed and measured without changing the identity of that object.