Density

- The ratio of mass to volume, or the mass divided by the volume

Equation ⟶

Usually measured in g/cm^3 or g/ml

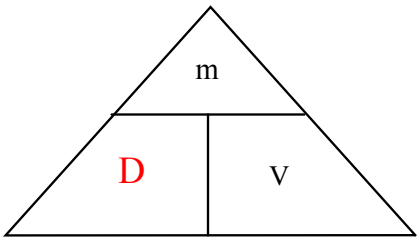
- Density is a physical property of a substance

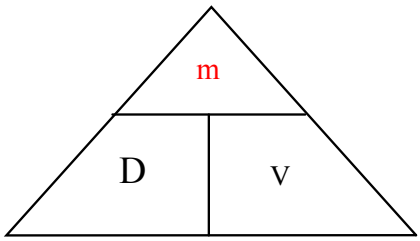
- It does not depend on the size of the object.....why?

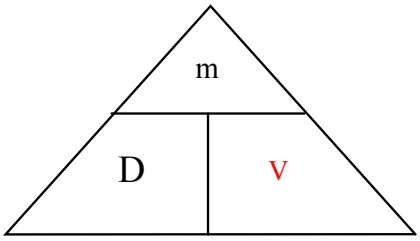
Densities of familiar substances

Substance	Density
cork	0.24
butter	0.86
ice	0.92
sucrose	1.59
bone	1.86
diamond	3.26
copper	8.92
lead	11.35
gasoline	0.67
ethyl alcohol	0.791
kerosene	0.82
turpentine	0.87
water	1.00
sea water	1.025
milk	1.031
mercury	13.6

If an object's density is > 1.00 (water) the object will sink in water. If the object's density is < 1.00 the object will float in water







A sample of aluminum metal has a mass of 8.4 g. The volume of the sample is 3.1 cm^3. Calculate the density of aluminum

What is the density of an 84.7 g sample of an unknown substance if the sample occupies 49.6 cm^3

What volume would be occupied by 7.75 g of a substance with a density of 4.53 g/cm^3?

What would the mass be of an item with a density of 3.2 g/cm^3 be if it occupied 45 cm^3 of space?