

1. An object with a mass of 18.45 grams is determined to have a volume of 2.15 mL. What is its density ?
2. What volume would 114.25 grams of ethanol occupy ? (Density of ethanol is 0.800 g/mL)[†]
3. A block of wood (density 0.95 g/mL) is found to have a volume of 8.14 mL. What is the block's mass ?
4. A rectangular block of metal, measuring 8.25 cm by 6.14 cm by 2.15 cm has a mass of 1.23 kg. What is its density ?
5. A certain gas has a density of 6.02 g/L. What mass would 250.0 mL of this gas occupy ?
6. A metallic cylinder 18.1 cm high and 2.54 cm in diameter has a mass of 962.5 grams. Is this metal pure lead ? Justify your answer.
7. A neat thing about density - one material will float on a liquid of another material if the liquid has a higher density than the other material. This is why most wood floats; its density is less than that of water. By looking at the periodic table, find a substance that lead will float on.

ANSWERS :

1. 8.58 g/mL
2. 143 mL
3. 7.7 g
4. 11.3 g/mL
5. 1.51 g
6. No. Pb has a density of 11.4 g/mL. This object has one of 10.5 g/mL.
7. Hg