







Questionnaire about Density

- 1) What is the density of a substance? How is it calculated?
- 2) What is the density of an iron bar if a volume of 10 cm^3 has a mass of 78 g ? If we break the bar into two pieces, what will be the density of each piece? Explain your answer.
- 3) A 10 cm^3 piece of gold has a mass of 193 g . Is gold denser than iron? What will be the density of gold if you had a 20 cm^3 piece?
- 4) Imagine you have the following bodies on top of your lab bench. Tell us how you would calculate their volume:

A. Cube with an edge length of 2 cm	B. Sphere of radius 3 cm	C. A screw
		

- 5) If you had to find the density of an object in a lab, how would you do it?
- 6) Imagine you have these four keys to open a door. They are made with four different materials, and only the less heavy key opens the door. Could you tell which key and why?

Chromium Key $d = 7,2 \text{ g/mL}$	Iron Key $d = 7,9 \text{ g/mL}$	Titanium Key $d = 4,5 \text{ g/mL}$	Copper Key $d = 8,4 \text{ g/mL}$
			

- 7) Could you explain why the previous keys weigh differently but they all occupy the same volume?
- 8) We have found in the laboratory four bottles which, incredibly, have the same mass, but the labels are switched! Could you place them in the right bottle?

Label A $d = 0,8 \text{ g/mL}$	Label B $d = 2,1 \text{ g/mL}$	Label C $d = 1,3 \text{ g/mL}$	Label D $d = 0,5 \text{ g/mL}$
