

OP2a

To measure the mass and volume of a rectangular solid and hence determine its density

Student report**1** Introduction

(i) Date(s) of investigation: 7 Jan. 2015

(ii) List of the tasks to be carried out.

① Get mass of solid

② measure dimensions, calculate volume

③ calculate density

2 Preparation and planning

List of apparatus (measuring instruments, containers etc.).

Scales, block of wood, callipers & ruler, calculator

3 Procedure

(i) Outline your method.

① Place block on scales and record its mass.

② With callipers & ruler measure the length, width & height of the block ③ Calculate Volume ($V = LBH$)

④ calculate density ($D = m/V$)

(ii) Risks involved/safety procedures taken (if any).

Unplug scales after use.

(iii) Measurements recorded.

	Mass	Length	Breadth	Height
1st time measuring	83 g	7.5 cm	4.0 cm	4.0 cm
2nd time measuring	Volume	$= (7.5)(4.0)(4.0) =$		120 cm^3
3rd time measuring				

(iv) Formula used to calculate density.

$$D = m/v$$

$$D = 83/120 = 0.69 \text{ g/cm}^3$$

4 Conclusion and evaluation of results (what result did you get, does it make sense?)

I predicted that the block would float in water because $0.69 \text{ g/cm}^3 < 1 \text{ g/cm}^3$ (water's density).

The result made sense as it did float in water.

5 Comments (e.g. why did you do the experiment a number of times? How is it easy to make a mistake in measuring?)

Care must be taken when using callipers and scales for accuracy.

6 Name:

Nur-R.

Date of completion:

7-1-'15