

Investigating Density

Aim: You are investigating the density of different materials by direct measurement of mass and volume

The image shows a digital scale interface. On the left, a digital scale displays '338.0 g' on its screen. Below the screen is a platform with a block labeled 'Aluminium'. Below the platform are three buttons: 'Scales' (highlighted in green), 'Ruler', and 'Cylinder'. At the bottom of the scale interface is a dark bar with the text 'Drop block in'. On the right, there is a form for data entry. It starts with a 'Material' dropdown menu set to 'Aluminium'. Below this is a text box with the instruction 'Read the mass from the digital display on the scale.' followed by 'Enter your readings'. There are two input fields: 'MASS (G)' with the example 'e.g. 270' and 'VOLUME (CM³)' with the example 'e.g. 100'. Below these is a label 'YOUR DENSITY (G/CM³) = MASS ÷ VOLUME' and an input field with the example 'e.g. 2.70'. A green 'Check ✓' button is at the bottom of the form. At the very bottom right, there is a 'Data Table' section.

Method:

1. Choose a material from the dropdown menu
2. Record the mass in you results table
3. You can measure one side of a cube shaped object using the 'Ruler' button and calculate the volume from this
4. Alternatively, you can use a measuring cylinder with water in to measure volume by displacement
5. Repeat this for all the materials

Results:

Material	Mass (g)	Volume (cm ³)	Density (g/cm ³)

Analysis:

Plot a graph to show your results. What type of graph would be suitable?

Which of these materials float on water?

What does this tell you about the density of water?

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