Density of liquids Worksheet

Mr Charman

Exam question

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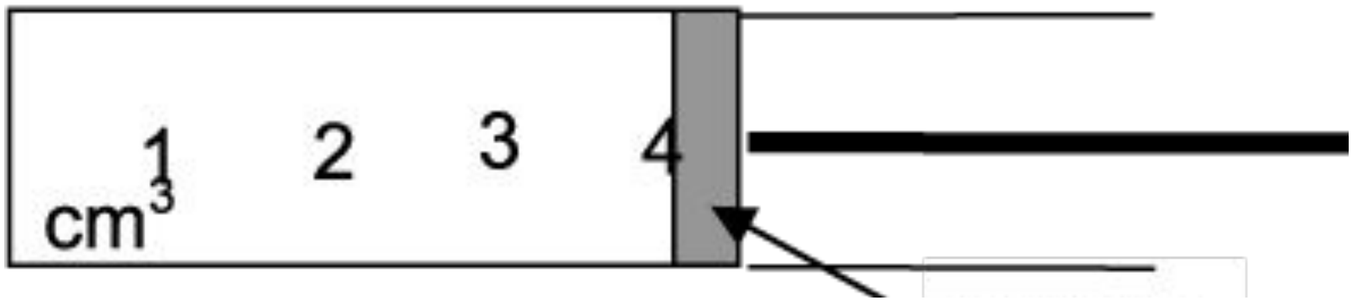
A graduated syringe contains a liquid.



The density of the liquid in the syringe is 2.4 g/cm^3.

a) Calculate the mass of liquid in the syringe?

b) What is the resolution of the syringe?

OCR, Gateway Physics A, Paper J249/03, Specimen.

Answers

Exam question

Review

a) Mass = density X volume

Mass = 2.4 X 4 = 9.6 g (2)

b) Resolution = 0.5 cm^3 (1)

In lesson questions

Pause the video to complete your task

Independent Practice

Describe the steps required to determine the density of a liquid **(4)**

Points to consider:

- The equipment you will use?
- How you will measure only the mass of the liquid?
- How will you measure the volume of liquid?
- How will you calculate the density of liquid?

Resume once you're finished

Pause the video to complete your task

A student investigates the density of a 500 cm^3 solution of salt water and finds it to be 1.15 g/cm^3.

Given that the density of water is 1 g/cm^3, calculate the mass of salt dissolved in the water.

Resume once you're finished

Pause the video to complete your task

Independent task

Today we used a top pan balance, a ruler and a 100 cm^3 measuring cylinder. Look back at your data and write down the resolution of each instrument.

Resume once you're finished

Answers

Review

Solids have a **higher density** than liquids because the **particles** are arranged in a **regular pattern** with **no gaps** between one another. This means for a given **volume**, more **mass** is contained.

Review

1. Measure the mass of an empty measuring cylinder in grams using a top pan balance.
2. Pour 100 cm^3 of the liquid into the measuring cylinder.
3. Now measure the mass of the full measuring cylinder in grams.
4. Work out the mass of the liquid by subtracting the mass of the empty measuring cylinder from the mass of the full measuring cylinder.
5. Record the volume of the full measuring cylinder in cm^3
6. Finally use density = mass / volume to calculate the density