ROQED PHYSICS LAB

Determination of density of liquids and solids.

Purpose of work: Tohow to
learnuse scales and with their help determine the mass of bodies, as well as, knowing the mass of the body and its volume, experimentally determine the densities of bodies and liquids.

Devices and materials:
070 - scales,
035 - solid,
019 - beaker.

Theory:

WEIGHING RULES

Before weighing, make sure that the balance is balanced. The body to be weighed is placed on the left pan of the balance, and the weights on the right. Small weights and weights should be taken with tweezers.

Putting the body to be weighed on the left cup, a weight is placed on the right one having a mass close to the body weight. Then weights of a smaller mass are selected in the same way until equilibrium is reached. Having balanced the body, calculate the total mass of the weights lying on the cup.

p (iron) = 7.87 g / cm³
p (oil) = 0.925 g / cm³

The volume of a body can be measured using a beaker by measuring the difference in the volumes of liquids in a beaker before and after immersing a solid into it. Knowing the volume and mass of the body, you can calculate its density by the formula $\rho = \dfrac{m}{V}$

Workflow

1. According to the image on the board, prepare a workplace for the experiment.

2. Start the simulation.

3. Weigh the solid on the balance

4. Add water to the graduated cylinder (beaker). The volume V_1 ofAnnecy in the table.

5. Place a solid in water in a graduated cylinder, the level V_2 to which the water has risen. to the Table.

6. Make a formula for calculating the volume of the body
$V = V_2 - V_1$

7. Make a formula for calculating the density of the body

$$\rho = \frac{m}{V}$$

8. Next, we carry out the experiment to find the density of the liquid.

9. Place an empty beaker on the scale and set its weight as tare.

10. Add oil to the beaker. Enter the weight and volume of the liquid on the Table.

11. Table 1.

	Substance name	Mass m (g)	Volume V_1 (cm³)	Volume V_2 (cm³)	Volume of the body V (cm³)	Density of matter, ϱ g / cm³
Solid	iron	...	...	...		
Liquid	oil	...	0	...		

12, Conclusion:
A. To find out the density of a body, you need to divide its mass by its volume.
IN. The density of the body depends on its volume.
C. The density of the body depends on its mass.