

Density Practice Problems

Directions: Solve the following density problems.

$$\text{Density} = \text{mass/volume}$$

1. A block of aluminum occupies a volume of 51.0 mL and has a mass of 412 g. What is its density? Does it float or sink in water?
2. What is the mass of ethyl alcohol that exactly fills a 340.0 mL container? The density of ethyl alcohol is 0.789 g/mL.
3. Calculate the volume of a wooden block if the mass of the block is 51.5 g and has a density of 0.843 g/cm³.
4. Which of the following materials will float on water, which has a density of 1 g/mL?
 - a. Air = 0.001 g/mL
 - b. Corn oil = 0.93 g/mL
 - c. Glycerin = 1.26 g/mL
 - d. Corn syrup = 1.38 g/mL
 - e. Wood = 0.85 g/mL
 - f. Steel = 7.81 g/mL
 - g. Rubber = 1.34 g/mL
 - h. Ice = 0.92 g/mL
 - i. Brick = 2.00 g/mL
5. Use the materials from the previous question. Assuming the materials don't mix, show how the materials would stack up in a graduated cylinder. Draw a picture to support your answer.