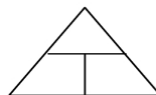


Density Practice: Worksheet #1

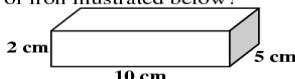
Calculate density, and identify substances using a density chart.

Density is a measure of the amount of mass in a certain volume. This physical property is often used to identify and classify substances. It is usually expressed in grams per cubic centimeters, or g/cm^3 . The chart on the right lists the densities of some common materials.

Equation: **Density** = $\frac{\text{mass}}{\text{Volume}}$ or **D** = $\frac{m}{V}$



Substance	Density (g/cm^3)
Gold	19.3
Mercury	13.5
Lead	11.4
Iron	7.87
Aluminum	3.7
Bone	1.7-2.0
Gasoline	0.66-0.69
Air (dry)	0.00119

Problem Statement	Formula	Define Variables	Substitution	Answer
<i>Sample:</i> What is the density of a billiard ball that has a volume of 100 cm^3 and a mass of 250 g ?	$D = \frac{m}{V}$	$M = 250 \text{ g}$ $V = 100 \text{ cm}^3$	$D = \frac{250 \text{ g}}{100 \text{ cm}^3}$	2.5 g/cm^3
1. A loaf of bread has a volume of 2270 cm^3 and a mass of 454 g . What is the density of the bread?				
2. A block of wood has a density of 0.6 g/cm^3 and a volume of 1.2 cm^3 . What is the mass of the block of wood?				
3. A 800 g boulder has a density of 8 g/cm^3 . What is the volume of the boulder?				
4. What is the mass of the block of iron illustrated below? 				

Use the data below to calculate the density of each unknown substance. Then use the density chart above to determine the identity of each substance.

Mass (g)	Volume (cm^3)	$D = m/v$ Variable Substitutions	Density (g/cm^3)	Substance
4725	350	$D = \frac{4725}{350}$	$D = 13.5$	Mercury
171	15			
148	40			
475	250			
680	1000			