

DENSITY WORKSHEET

Density is the **ratio** of the **mass** of the substance to the **volume** of the substance at a given temperature. ($D = M/V$) *Be sure to include units in answers and show your work.*

1. A gold-colored ring has a mass of 18.9 grams and a volume of 1.12 mL. Is the ring pure gold? (Density of gold is 19.3 g/mL.)
2. What density be from a 0.871 gram sample of air occupying .67 L?
3. Pumice is volcanic rock that contains many trapped air bubbles. A 225 g sample occupied 236.6 mL. What is the density of pumice?

Will pumice float on water? Why?
4. A cup of sugar has a volume of 237 mL. What is the mass of the cup of sugar if the density is 1.59 g/mL?
5. A crumpet recipe calls for 175 grams of flour. According to Julia Child's data, the density of flour is 0.620 g/mL. How many mL of flour are needed for this recipe?
6. What is the density of a piece of wood that has a mass of 25.0 grams and a volume of 29.4 cm³? Will it float on water?
7. I threw a plastic ball in the pool for my dog to fetch. The mass of the ball was 125 grams. What must the volume be to have a density of 0.500 g/mL.
8. Gasoline is a non-polar liquid that will float on water. 450 grams of gasoline is spilled into a puddle of water. If the density of gasoline is 0.665 g/mL, what volume of gasoline is spilled?
9. The density of silver is 10.49 g/cm³. If a sample of pure silver has a volume of 12.993 cm³, what would the mass?
10. The density of a sample of gold is 19.32 g/cm³. If the sample has a volume of 48.9 cm³, what is the mass?
11. How many grams of tin would occupy 5.5 L, if it has a density of 7.265 g/cm³?