1. What is the density of a piece of wood that has a mass of 25.0 grams and a volume of 29.4 cm^3?

2. A piece of wood that measures 3.0 cm by 6.0 cm by 4.0 cm has a mass of 80.0 grams. What is the density of the wood? Would the piece of wood float in water?
   (volume = L x W x H)

3. A cup of gold colored metal beads was measured to have a mass 425 grams. By water displacement, the volume of the beads was calculated to be 48.0 cm^3. Given the following possible metal, identify the metal using your <u>reference tables</u>.

4. 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.

   Does this ball float or sink on in the pool?

5. After throwing the ball in the pool for my dog, the ball sprung a leak and began to fill with water. How many mL of water can the ball absorb before the ball sinks?

6. What is the mass of a cylinder of lead that is 2.50 cm in diameter, and 5.50 cm long. The density of lead is 11.4 g/mL. (volume of a cylinder is $v=\pi r^2 h$)

7. An ice cube measuring 5.80 cm by 5.80 cm by 5.80 cm has a density of 0.917 g/mL. What is the mass?

50 ml
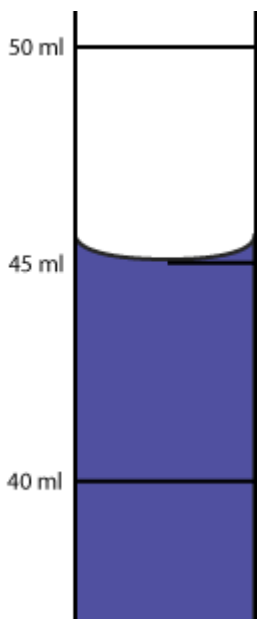
45 ml   8. The volume of a solution was measured in this graduated cylinder. If the mass of solution is measured to be 60.75 grams, what is the density of the solution?

40 ml

9. 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?

10. The density of aluminum is 2.70 g/mL. A piece of aluminum with a mass of 244 grams, is dropped into a graduated cylinder that already contains 20.0 mL of water. What is the volume that a student would read on the graduated cylinder after the aluminum is placed into the water?

11. When determining the density of an object by water displacement, why is it important to mass the object first, before determining the volume? (Use common sense here)