BLM 3-12, Density Calculations

1. 0.715 g
2. 446 g
3. 1 cm^3
4. 769 230 mL
5. No. This is not accurate. The students must have made a mistake with a decimal place. This combination of mass and volume would not be the proper density.
6. This may be correct. The density of oak is 0.70 g/cm^3, which is very close to the students' results.

BLM 3-13, Comparing Densities

1. The Styrofoam™ and oak would float. The gold ring would sink.
2. (a) Carbon dioxide is denser than air.
   (b) Oxygen is denser than air.
   (c) Air is denser than hydrogen.
3. Salt is denser than sugar. You may be able to determine the identity of the substance by comparing the mass-to-volume ratios to that of sugar or salt.
4. Seawater is denser than fresh water. Therefore, it seems easier to float in the sea. However, some students may bring up the issue of waves and currents, which make it difficult to swim in seawater.
5. Generally, most solids seem to be denser than most liquids, but there are many exceptions. Styrofoam™ and cork are not dense, but they are solids. Mercury is a liquid, but it is quite dense. Thus, the statement is not always true.