Density and Flotation

In this activity you further observed that materials with a greater density than a given liquid will sink, and materials with less density than a given liquid will float. In the column of colored liquids, the liquid with the highest density was on the bottom, and the liquid with the lowest density was on the top. The ink-pen barrel sank in ethanol and floated in water. When you added ethanol to the water you created just the right density to have the ink-pen barrel float within the liquid. This position of floating is where the density of the ink-pen barrel is equal to the density of the ethanol/water. The ink-pen barrel "found" the place where the density of the liquid was identical to the density of the ink-pen barrel.

Approximate Densities of Some Common Liquids and Solids

Material	Density (g/cm^3)
wood (balsa)	0.12
wood (birch)	0.66
gasoline	0.69
isopropanol	0.79
vegetable oil	0.92
distilled water	1.00
glycerol	1.26
magnesium	1.70
aluminum	2.70
iron	7.90
copper	8.90
nickel	8.90
silver	10.50
mercury	13.50
gold	19.30