Density of Items on Stacking Liquids

Instructions

Materials:
250-mL Graduated cylinder with 5 layers of liquids at varying densities:
1. Dark brown Karo syrup
2. Laundry detergent
3. Fabric softener
4. Mineral oil
5. Isopropyl alcohol (rubbing alcohol)

Solid items with different densities:
- A penny or paper clip (denser than Karo syrup)
- Rubber stopper (density between Karo syrup and laundry detergent)
- Peanuts or cashews (density between fabric softener and laundry detergent)
- Cork (lightest item, density lower than rubbing alcohol)

Set Up:
1. Prepare the graduated cylinder with the stacking liquids.

Demo Procedure:
1. Drop the items into the cylinder.
2. The penny and paper clip sink straight down to the bottom of the graduated cylinder.
3. The rubber stopper floats on top of the Karo syrup.
4. The nuts (peanuts and cashew) float on top of the fabric softener.
5. The cork floats on top of the rubbing alcohol.
6. The items can be dropped in random order, they will float to the top of the liquid layer that has a density greater than the item's density.

Disposal: Pour the liquids in the graduated cylinder through a colander to catch all the solid items. The items can be cleaned and reused. The liquids can be poured down the drain with the water running.