

Name _____

Layered Liquids Lab

Liquids can have **different densities**, so they form **layers** when combined - with the **most dense** liquid on the bottom and the **least dense** on top. Use the density formula when needed: $D = \frac{m}{V}$

Typical Liquid Densities (g/mL): Rubbing alcohol - 0.79 | Oil - 0.90
Water - 1.00 | Saltwater - 1.05 | Corn syrup - 1.38 | Honey - 1.42



1. A mixture of oil, water, and syrup is poured into a beaker.
Which liquid will settle at the bottom? _____
2. Arrange the following in order from **least dense to most dense**:
honey, oil, water, saltwater, alcohol. _____
3. A student pours 20 mL of oil (mass = 18 g) into a graduated cylinder.
What is the density of the oil? _____
4. A sample of saltwater has a **mass of 210 g** and **volume of 200 mL**.
What is its density? _____
5. Which will float on top of the other — **rubbing alcohol (0.79 g/mL)** or **corn syrup (1.38 g/mL)**? _____
6. When 50 mL of water and 50 mL of oil are combined, a clear boundary forms.
If the total mass is **95 g**, what is the average density of the mixture? _____
7. A marble sinks through oil but floats in water. What does this tell you about the marble's density compared to both liquids? _____
8. A sample of honey (density 1.42 g/mL) has a **volume of 15 mL**.
What is its mass? _____
9. A layer of corn syrup (1.38 g/mL) is 2 cm thick, and a layer of oil (0.90 g/mL) is 3 cm thick above it. Which layer exerts more pressure at the interface – and why? _____