



SINK OR FLOAT?

Use the diagram to answer questions #1-5.

1. Which liquid in the diagram is the most dense?

HONEY

2. How do you know that liquid is the most dense?

The dense liquids sink and the least dense liquids float.

3. How many liquids in the cylinder are less dense than water?

2 (olive oil and rubbing alcohol)

4. Which is more dense, olive oil or corn syrup?

Corn Syrup

5. What do you think would happen if the amount of rubbing alcohol at the top were doubled?

NOTHING - Rubbing alcohol has a density of 0.79 g/mL no matter how much alcohol you have.

6. Water has a density of 1.00 g/mL. Which of the liquids in the table to the right would float on top of water?

Gasoline and Alcohol

Liquid	Density
Chloroform	1.49 g/mL
Alcohol	0.79 g/mL
Gasoline	0.67 g/mL

Type of Wood	Density
African Teakwood	0.98 g/mL
Balsa	0.14 g/mL
Cedar	0.55 g/mL
Ironwood	1.23 g/mL

7. What type of wood sinks in water?

Ironwood (1.23 g/cm³)

8. If block of wood has a mass of 49 g and a volume of 50 mL, what kind of wood is it?

African Teakwood

$$D = \frac{m}{V} = \frac{49g}{50mL} = 0.98g/cm^3$$

9. Wood from a balsa tree has a density of 0.14 g/mL. If an entire balsa tree, with a mass of 2,000 kg, fell into a lake, would it float or sink?

FLOAT

10. Why? Anything that has a density of less than 1g/cm³ will float in water. Balsa has a density of 0.14g/cm³ so it will float in H₂O (1.0g/mL)