# Measuring Density

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How do you measure the mass of a solid?

Use a balance scale

How do you measure the mass of a liquid?

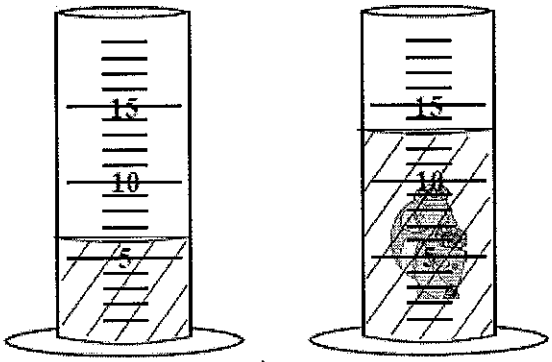
Measure mass of container while empty then measure mass of container w/ liquid subtract the two

How do you measure an irregular shaped object?

Displacement Method

How do you measure the volume of a floating object?

Push it under water just until it is submerged



Volume before: 6ml Volume after: 13ml

Volume of the toy car: 13-6 = 7ml

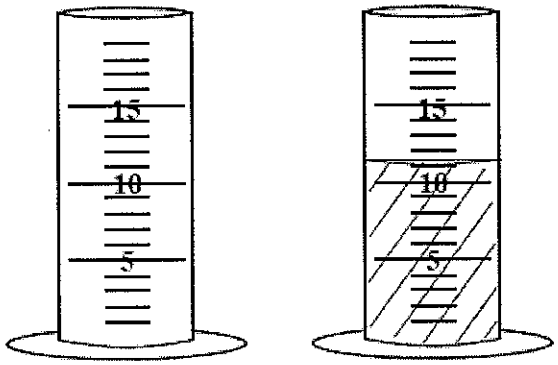
If the mass of the toy car is 14 grams, find its density.

D = m/v D = 14g / 7ml

m = 14g

V = 7ml

D = 2g/mL



Empty mass: 65 grams Mass with liquid: 88 grams

Volume of liquid: 11mL

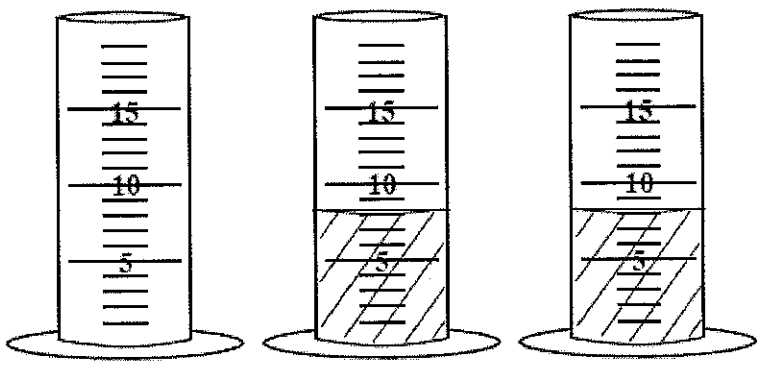
Mass of the just the liquid: 88-65 = 23g

What is the density of the liquid?

D = m/v D = 23g / 11ml D = 2.09 g/mL

m = 23g

V = 11ml



The two liquids have the same: Volume

Which one has more mass? A

Volume of A: 8ml Mass of A: 73g - 65g = 8g

Density of Liquid A: D = m/v D = 8g / 8mL D = 1 g/mL

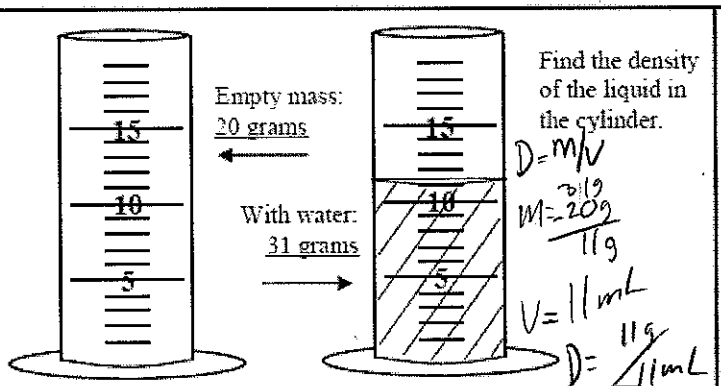
Volume of B: 8mL Mass of B: 71g - 65g = 6g

Density of Liquid B: D = 6g / 8mL D = 0.75 g/mL

Empty mass: 65 grams

With Liquid A: 73 grams

With liquid B: 71 grams



Empty mass: 20 grams

With water: 31 grams

Find the density of the liquid in the cylinder.

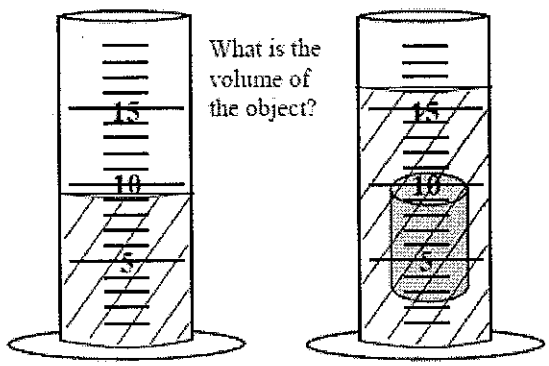
D = m/v

m = 31g - 20g = 11g

V = 11mL

D = 11g / 11mL

D = 1 g/mL



What is the volume of the object?

ΔVolume = V after - V before = 16mL - 9mL = 7mL