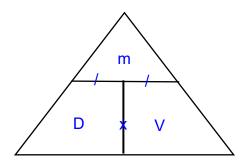**Density**: _the amount of matter in a given space_____

_____

Density of a solid is measured in g/cm³   grams/centimeter cubed

Density of a liquid is measured in g/mL   grams/milliLiter

Density = mass / Volume

D = m/V

V = m/D

m = DV

Examples:

1) A sample of jet fuel has a mass of 8.3 g and a volume of 10.3 mL. What is its density?

m = 8.3g

V=10.3 mL

D= ?

D=m/V

D = 8.3g/10.3mL

D = 0.81 g/mL

2) A sample of gold has a density of 19.3 g/cm³. What volume of gold will you need if you want to make a ring that has a mass of 3.5 g?

D = 19.3 g/cm^3

m = 3.5 g

V = ?

V=m/d

V = (3.5g)/(19.3g/cm^3)

V = 0.18 cm^3

Substances with a lower density will float on top of substances with higher density.

3) Does oil float on water or does water float on oil?

   Density of oil = 0.93 g/mL

   Density of water = 1 g/mL

   Oil floats on water.... think about oil spills.

4) Will an iron nail float or sink in liquid mercury?

   Density of iron is 7.87 g/cm^3

   Density of mercury 13.56 g/mL

   An Iron nail will float on mercury

5) The following substances are layers in a density tower,

Substance	Density (g/mL)
Baby Oil	0.83
Water	1.00
Maple Syrup	1.37

   right here betweeen the baby oil and water

   If you drop a plastic bead with a density of 0.92 g/cm^3 where will it land?

   0.83 < 0.92< 1