

Density and Concentration

*How much “stuff”
crammed into
how much space?*

Density

Usually used for solid and gas

How much
"stuff"



mass

crammed into



"per"

How much
space



volume

$$\frac{\text{g}}{\text{mL}}$$

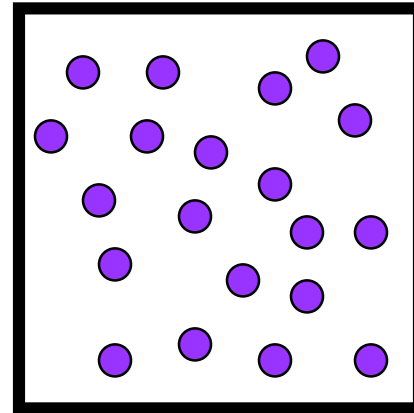
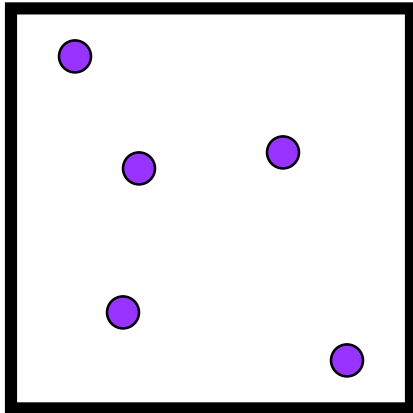
$$\frac{\text{g}}{\text{cm}^3}$$

$$\frac{\text{kg}}{\text{L}}$$

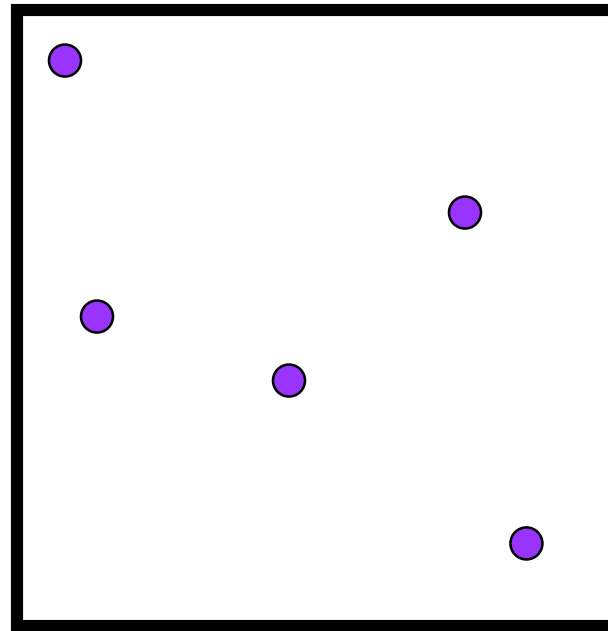
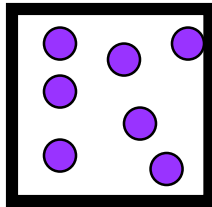
REMEMBER: 1mL = 1cm³

Etc...

Which one is more dense?



Which one is more dense?



Try these...

- 1) Jack has a rock. The rock has a density of 6.73 g/mL and a volume of 8cm³. What is the mass of the rock? (1 mL = 1cm³)
- 2) What is the volume of an object if the density is 1.45g/mL and it has a mass of 15.2 grams?
- 3) What is the density of a block if it has the following dimensions and it weighs 45.8 g? 12 cm long, 3 cm tall, and 6.5 cm wide

Concentration

Usually for solutions

**We are only going to use MOLARITY
as our concentration unit**

How much
"stuff"



moles

crammed into



"per"

How much
space



liter

moles
L

*You can
also just
use a
capital M*

Try these...

- 1) If you have 1.3 moles of NaCl dissolved in 4L of water, what is the molarity?
- 2) What is the concentration of a solution if 0.45 moles are dissolved in 300mL?
- 3) If you have 15 grams of NaOH in 630mL of water, what is the concentration?

GROUP #	PRE-1982 % error	POST-1982 % error
1		
2		
3		
4		
5		
6		
7		
8		